ABOUT TOJDAC
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Design, art and communication are evaluated together since they are interdisciplinary fields. It is not possible to understand design as a mode of communication without considering design theories and design principles. The design works that do not have an artistic point of view and/or the art works that do not have design principles and design theories can not exist. In addition to these, art or design is known as a communication activity. As a result these three fields are intertwined and essential for one another.

Tojdac, which was first published after Visualist 2012 International Congress on Visual Culture at Istanbul Kültür University, is an online journal that publishes original research papers and solicits review articles on developments in these three fields. The scientific board consists of the Visualist 2012 scientific committees. In this context, Tojdac is qualified as an “international peer-reviewed journal”. It is a peer-reviewed international journal published four times a year. Each volume has a different theme and a guest editor. Themes and subheads that are chosen under the main topic of “Design, Art and Communication” are determinants in choosing and publishing articles.

The aim of Tojdac is to create a source for academics and scientists who are doing research in the arts, design and communication that feature formally well-written quality works. And also create a source that will contribute and help develop the fields of study. Accordingly, Tojdac’s intentions are on publishing articles and scientific works which are guided by a scientific quality sensibility.

Peer Review Process
The editorial board peruses the submitted material with regard to both form and content before sending it on to referees. They may also consider the views of the advisory board. After the deliberation of the editorial board, submitted material is sent to two referees. In order for any material to be published, at least two of the referees must approve it. The revision and improvement demanded by the referees must be implemented in order for an article to be published. Authors are informed within three months about the decision regarding the publication of their material.

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Call For Papers
TOJDAC will bring together academics and professionals coming from different fields to discuss their differing points of views on these questions related to “Design, Art and Communication”.

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• New Media (web 2.0, web 3.0, interactivity, convergence, virtuality, social media, etc.)
• Digital Arts (cinema, television, photograph, illustration, kinetic, graphics etc.)
• Digital Society (E-community, surveillance society, network society, etc.)
• Communication Arts (advertising, public relation, marketing, etc.)
• Performing Arts
• Visual Culture
• Visual Arts
• Visual Semiotics and Applications

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ANALYTICAL REVIEW OF THE VALUE ENGINEERING METHODOLOGIES AND SELECTING SUPERIOR METHODOLOGY BASED ON TOPSIS MULTI-CRITERIA DECISION

Saeed Asgari
Master of Project Management and Construction, University of Tehran, Iran
saasgari@ut.ac.ir

ABSTRACT
Value engineering is one of the management tools which has been used in recent decades and is defined as a set of systematic techniques, based on creativity and teamwork to solve problems that are applied to reduce costs and performance improvements and quality of the project, products and processes. The application of this tool is preferable to manage the minds of experts in order to create Brainstorm and valuable ideas and provides creativity in order to modify the system. Generally, value engineering includes ancillary advantages such as the creation of synergy in the organization, improve communication between design factors, take advantage of applicable ideas in similar projects, increase teamwork spirit within the organization, trading beneficial factors functionalist design thinking and promote creative thinking and deconstructing in addition to its original benefits including improving design quality and reduce costs. Although the engineering value are provided about fifty years ago in developed countries, to analyze the performance of a product or service and provide an acceptable option with the lowest cost and used in various projects, but in our country only in recent years the importance of this subject is addressed and the first steps have been taken for its application. Also noteworthy based on studies in this context, it can be concluded that according to the modern methods of value engineering in comparison with previous methods, value engineering positions at top management levels are placed and encircles all a system of senior executives and clerks. In this study at first, value engineering definition is reviewed from the perspective of institution and various researchers and finally by adopting a comparative evaluation between different methodologies based on expert opinion and industry experts, the most appropriate methodology will be introduced to use in projects within the country through applying multi-criteria decision making on TOPSIS method.

Keywords: Value engineering, Cost reduction, Quality, Creativity, Topsis

INTRODUCTION
Value Analysis was adopted as a special technical method in the years after World War II. Particularly, design and development of this method is commenced by Henry Erlicher “Technical Assistant of General Electric Company purchases”. He believed that some of the materials and alternative proposals that were employed essentially and Due to wartime shortages have had a better performance at a lower cost. According to his command within the company and to improve production efficiency through supply of materials, components and alternatives approached for materials and costly materials, a concerted effort was made. In 1947, this task was founded to Lawrence D.Miles “Chief engineer of General Electric Company”. Miles has been studied about the available methods and techniques and exploited some conventional methods for compilation with its step by step approach to value analysis. Miles who is considered the initiator and founder of Value Engineering, provided a formal approach into practice that were examined several groups of employees, Performance of GE's products. They rely on a group of creative methods and without compromising product performance, created changes in the company's products and didn't reduce production costs. Hence, "value" analysis was accepted as a standard in the General Electric Company and gradually other companies and some government agencies applied this new approach as a means to reduce their costs. The result was concluded in such a way that "value engineering" technique improved. Value engineering is one of the management tools which has
been used in recent decades and is defined as a set of systematic techniques, based on creativity and teamwork to solve problems that are applied to reduce costs and performance improvements and quality of the project, products and processes. Value engineering provides applicable product or process improvements to quickly meet the results by contribution of a wide range of professional’s knowledge and experience and focuses on the functions of the project. According to the definition of International Project Management Institute, value engineering is a creative attitude to optimize life cycle costs, saving times, increase profits, improve quality, increase market share, and solve problems and optimal use of resources. In terms of Zimmerman viewpoint, value engineering is management strategy and creative idea seeking to provides the best trade-off between cost, validity and reliability of the product or project using functional systems approach (1). According to American standard, value Engineering is defined as application of Systematic techniques and well-known techniques that can calculate functions of a product or service and determine the value of these functions, the most essential functions to achieve real performance of products at the lowest cost during the life cycle (2). Ernst Bouy President of Value Engineers Association in America believes that: Value Engineering is not only may not give priority to a certain elements, but also is a kind of approach to think. Figure 1 show the cycle of value engineering in a simple language.

Figure 1: Cycle of Value Engineering

COMPARISON OF VALUE ENGINEERING WITH OTHER METHODS OF IMPROVEMENT IN THE MANAGEMENT
As it is clear from the definition of value engineering, Strengths of Value Engineering against other approach utilized to reduce costs and improve the quality, is that this method is focused on the functions of the project or product and taking advantage of group creativity and its synergy to provide applicable solutions in the shortest possible time. The Matrix tool compares the features of several management methods and provides a methodology for evaluating of these methods. The method used in this comparison is based on five options. Obviously, if a way for an application is appropriate in particular, the number of 5 is awarded; if is useful for one application but is not its primary usage of this method, number 4 is assigned; if method has little application number 3 and number 1 or 2 indicates the lack of usefulness this method correlating to intended user (3).
Table 1: Comparison of Different Methods of management Improvement

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<td>Simplification functions</td>
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<td>Creating new ideas</td>
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<td><strong>The development of</strong></td>
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<td>Improve administrative</td>
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<td>Problem solving</td>
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<td><strong>Improve product</strong></td>
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<td>Reducing the number of available Software</td>
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<td>Activity-based process</td>
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</table>

<table>
<thead>
<tr>
<th>Method or system</th>
<th>Reverse Engineering</th>
<th>Value Engineering</th>
<th>Total Quality</th>
<th>Management</th>
<th>Zero-based budgeting</th>
<th>Theres</th>
<th>Price target markets</th>
<th>Management by objectives</th>
<th>Kaizen</th>
<th>Quality Function Development</th>
<th>Management by Kaizen</th>
<th>Just-in-time</th>
<th>Failure mode effect</th>
<th>Design for Assembly</th>
<th>Total Costing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Table 1</strong>: Comparison of Different Methods of management Improvement</td>
<td>22</td>
<td>18</td>
<td>84</td>
<td>22</td>
<td>23</td>
<td>23</td>
<td>32</td>
<td>22</td>
<td>27</td>
<td>39</td>
<td>27</td>
<td>23</td>
<td>18</td>
<td>32</td>
<td>1155</td>
</tr>
</tbody>
</table>
APPROPRIATE TIME OF APPLYING VALUE ENGINEERING

Value engineering is applicable at all stages of a project, but the most benefits is achieved in the early stages of planning and project design where Flexibility of employer and designer is high, operation modifications are easier, and the impact of changes on project schedules is less and imposes a lower cost to the project. According to the International Society of Value Engineering, most profit and economizing on resources is obtained in the early stages of development and during the conceptual stages. At this stage, preliminary data of project is created, but the original design and resource development are not yet been conclusive. Due to this fact, this stage is best time to use value engineering where the main functions of the project is not realized and alternative methods can be taken into account (4).

The value methodology can be used more than once in the project life cycle. The initial application of value methodology is contributing the project started in the right direction and its repeated applications will help to correct the course of the project based on new or changed information. When a study of value is executed in late-stage development of the project, it is more likely to increase the costs of implementing (5).

As aforementioned, it can be concluded that whatever value engineering is studied closer to feasibility and initial steps of project, it will effectively enhance benefits of the project. Hence, the Vice President of Strategic Planning and Supervision in Value engineering studies at the instructions Pre-commissioning, operation and construction has recommended one study of value for small projects (At a cost of 20 to 100 billion riyals), two study for medium projects (at a cost of 100 to 300 billion riyals) and five value study for large projects (at a cost of 300 to 800 billion riyals) and very large (at a cost of more than 800 billion) in which at least one study is Mandatory for all the medium, large and very large projects (6).

Table 2: define Dimensions of the project

<table>
<thead>
<tr>
<th>Estimated project cost</th>
<th>The size of the project or projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>From 20 to 100 billion rials</td>
<td>Small</td>
</tr>
<tr>
<td>More than 100 to 300 billion rials</td>
<td>medium</td>
</tr>
<tr>
<td>300 to 800 billion rials</td>
<td>Large</td>
</tr>
<tr>
<td>More than 800 billion rials</td>
<td>Very large</td>
</tr>
</tbody>
</table>

Table 3: Number of proposed value and the duration of their studies

<table>
<thead>
<tr>
<th>end</th>
<th>Detailed design</th>
<th>The final feasibility study and preliminary design</th>
<th>The initial feasibility study start</th>
<th>The size of the project or projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>%75 improvement</td>
<td>%50 improvement</td>
<td>%25 improvement</td>
<td>3-5 day optional workshop</td>
<td>small</td>
</tr>
</tbody>
</table>
### VALUE ENGINEERING AND CONSTRUCTION SECTOR

There are many problems in the implementation of the project focused on three factors: time, cost and quality so that these challenges may enhance the importance of executable and reliable mechanisms for applications of the world sciences. In addition to necessity of these legal requirements in the application of value engineering in State and national projects, the need for a comprehensive, pervasive and applicable approach is sensed which could pave the way for project managers and experts. Evaluation of construction development projects according to the information and progress reports of national development projects have been published by Management and Planning organization during the years of 1995-2002 indicates that fulfilling of the realization of the projects in mentioned period at best case will be 49.5 percent (2000). Weighted average term respect to implementation of development projects in these mentioned years at best were 7.7 years (almost twice the predictions made in the design phase). On the other hand, the quality of the project implementation was inadequate and only 3.2% of projects terminated in 2002 contained higher quality grade. The statistics of the year 2001 (as an example) shows that in this year 670 thousand billion Rials credit is intended to implement 8892 projects. In this year, about 60.1 percent of predicted development credits have been allocated (10% less than 2000) and 59.7 percent of annually targets for National projects are realized. Moreover, 64.5 percent of the projects are lagged behind schedule and 41.5 percent of projects that were required to be operated were finished. Figures of rows annual budget in Construction development demonstrate the existence of appropriate situation to apply Value engineering. The status of Construction development projects in our country is insufficient in terms of design, implementation methods and standards against countries that enforced their organizations to apply Value engineering. If we consider implementing scientific and engineering community with these countries, we can understand that Value engineering tools can be a procedure to reduce government expenditure on administrative activities. The application value engineering in civil and architecture is important for this aspect that in addition to improving the quality of projects, may create added values and financial savings especially in the area of housing so that it’s increasingly applications in the world is visible.

### VALUE ENGINEERING FROM DIFFERENT PERSPECTIVES

Value Engineering Society in Japan which is in operated since 1965 defines value engineering as follows: Value Engineering is team-oriented and functional approach in order to analyze and improve value in a product, Plan or service (7). Fodor states value engineering, Value analysis, value management, value planning, value reliability or any other term as very powerful method is adopted to reform and improve the system (8). Army engineering corps defined value engineering as investigation of instructions, organizational structures and management systems (9). University of Leeds also defines value engineering as whole value improvement process for the customer from the determination of concepts to the operation of project (10). Particularly, A.F.A.V is a French association that is designed to promote and advance the methods of value engineering so that the scope of this forum activity is applying value engineering techniques alone or in combination with other methods. These activities include the training and consulting (11). C.S.V.A or Value Engineering Association of Canada located in Canada and is defined its mission as follows: Promote the use of methodologies to value their own interests to
governments, industry, professionals and associations. This Association has presented its business philosophy bilingual website in French and English language: learning other methodologies and the right combination of value analysis with other techniques and research and development of other approaches and methodologies that are related to association missions (12). I.V.M or Institute of Value Management which is established in the UK has several branches in the world. This Institute has launched a complete website and encompasses a lot of activity related to management of value (13). V.D.I that was founded as the engineering Society in 1956 is an independent and autonomous organization, apolitical and non-profit. The members of this association are more than 126000 engineers and natural scientists and considering an Honorary Fellow of the people are the largest engineering association in the West of Europe (14). The main objective of INVEST or Value Engineering Association of India is maximum Return rates of investments (ROI) from Value engineering (15).

**VARIETY OF VALUE ENGINEERING STUDY METHODOLOGY IN THE WORLD**
Methodology applying to value engineering study based on programs offered by various experts transparently is different. Miles firstly in the 7 phases and later during the 5 phases, Mudge in 7 phases, Kempter and Hannan in 8 phases, Fallon during the 6 phases, Dell ‘Isola in 4 phases, Attwood in 7 phases and in some cases renowned specialists have executed their studied in 9 phases.

Generally, there are multiple schedules and tasks must be operated by country or the value engineering administrators and on the other hand, it may be each operator modify the programs in the organization due to the nature of the subject. What programs are listed below are examples of standardized programs in different countries or organizations (16).

![Types of value engineering study methodology in the world](image)

**Figure2.** Types of value engineering study methodology in the world

As can be seen, this difference is more apparent in the number of phases; because operation of the routines by each group of stakeholders and experts endures a greater or lesser failures and the time to engage in a phase or executing specific activities in the project is earlier or later than others; while the process and team approach and set of necessary activities and their priority and deferment are not considerably difference.

**FUNCTION ANALYSIS PHASE: VALUE ENGINEERING HEART**
The lifeblood of value engineering in all methodologies is functional analysis. Actually, the functionalist approach of value methodology discriminate it from other methods and techniques. The objectives of this phase are explained as follows:

ü Creation of a single state between professionals
ü goal-oriented and result-oriented study
ü converting the discussion from the project components to functionalities
ü Analysis and selection of potential areas for improvement (focus on creativity Phase)
ü Increases on understanding of the project team and prepare them for processing practical ideas

Determination and understanding the functionalities are the requirements of each study because all the costs will be consumed for functionalities. Understanding the functionalities of a project may induce and transfer teams and individuals from a public perception to careful and determined and detailed understanding. Indeed, the goal of this phase is to specify explicit limits of the scope of the value in project that will be most beneficial. This phase requires the construction phase and instructions to provide the desired results. Summary of mechanisms and Points that must be considered in this phase are declared as follows:

ü Functions definition
ü determine Functions and resilient regions
ü Functions classification (primary, secondary, Secondary necessary and unnecessary)
ü providing operational analysis
ü cost analysis and cost of operation

In general, this phase includes all the efforts that are made for value engineering. Meanwhile, defining primary and secondary functions, performance of each component in form of verb and noun is expressed so that verb indicates such action that is operated by desired component and noun indicates the issue concerning what action or actions performed on it (17).

The purpose of this step is to understand the project from the perspective of functional which means what should be operated in the project. Some necessary activities to achieve the goal of this step include (3):

ü determine project functions as determined by means of random functions
ü Categorizing Project functions
ü Development of functional model with tools like Function Analysis System Technique (FAST) and function tree
ü Scaling model with the parameters of cost, performance characteristics and user behavior in order to select non-conforming applications against value to focus on value creation step; the measures used in this case are defined as follows:

v cost analysis respect to function (function matrix),
v Performance respect to function

ü cost estimation functions in order to select the value of non-conforming functions and creative focus on them with tools such as Value Index.

Finally, it can be concluded this step confirm that teams are focused on fulfill customer's needs and goals of the project. Moreover, provides more comprehensive understanding of the project to be focused on what the project does or should do and finally the values of non-conforming functions are determined in order to improve the project.

EVALUATE, PRIORITIZE VARIOUS METHODOLOGIES AND DETERMINE THEIR IMPORTANCE

In this section we review comparative evaluation between different methodology from the perspective of scholars and experts in the building industry using Multiple Criteria Decision Making (the most appropriate methodology) through TOPSIS method in internal projects.

RANKING THE OPTIONS USING TOPSIS

In this method, m agents or options are evaluated by an individual or group of individual of decision-makers. This technique is based on this concept that each choice of each factor should include shortest distance with the ideal positive factor (most important) and maximum distance from the ideal negative factor (least important factor); in other words in this method, the distance of a factor is measured from a positive and negative ideal factor and this is a criteria for rating and prioritizing factors. In order to identify factors impacting on the choice of the appropriate method of project value engineering in our country, available documents in several projects are examined and in several stages of interviews with designers, Project managers, Supervisors and visionaries who are directly involved in project implementation, different cases in this field are addressed. Then, along with interviews with experts and industry experts and investigating published articles in this field, effective items in this category are identified a questionnaire is developed on the basis of these categories. The questionnaire reformed and standardized through several stages and finally 13 factors remained in which used nine experts in this field and Likert five scale, as responses including high, relatively high, medium, slow and ineffective that have been weighted in data analysis from 5 to 1 (5 for high option, 1 for ineffective option). The method steps include:

Ø create a decision-making matrix

In this stage a matrix will be drawn that options are deployed in row and indices in the column and in the last row weight of each indicator are listed and at the intersection of rows and columns, the importance of each respondent for each of the options is made according to the index. (Table 4)

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Options</th>
<th>C_1</th>
<th>C_2</th>
<th>...</th>
<th>C_n</th>
</tr>
</thead>
<tbody>
<tr>
<td>A_1</td>
<td>r_{11}</td>
<td>r_{12}</td>
<td>...</td>
<td>r_{1n}</td>
<td></td>
</tr>
<tr>
<td>A_2</td>
<td>r_{21}</td>
<td>r_{22}</td>
<td>...</td>
<td>r_{2n}</td>
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<td>...</td>
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<td>...</td>
<td>...</td>
<td>...</td>
<td></td>
</tr>
<tr>
<td>A_m</td>
<td>r_{m1}</td>
<td>r_{m2}</td>
<td>...</td>
<td>r_{mn}</td>
<td></td>
</tr>
<tr>
<td>W_j</td>
<td>W_1</td>
<td>W_2</td>
<td>...</td>
<td>W_n</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: decision matrix (N)
$r_{ij}$ is rating index of I in the j index and $w_j$ is the weight of j index. The following algorithm provides relations of methods and criteria in Topsis pattern. Moreover, table 5 demonstrates options, and table 6 shows evaluation Criteria and table 7 shows the decision matrix.

![Diagram of methods relationship algorithm](image)

**Figure 3.** Methods relationship algorithm

**Table 5.** Desired options

<table>
<thead>
<tr>
<th>Methodology Miles</th>
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<tbody>
<tr>
<td>ASTM standard</td>
<td>A1</td>
</tr>
<tr>
<td>British method</td>
<td>A2</td>
</tr>
<tr>
<td>SAVE standard</td>
<td>A3</td>
</tr>
<tr>
<td>India Standard</td>
<td>A4</td>
</tr>
<tr>
<td>Japan Standard</td>
<td>A5</td>
</tr>
<tr>
<td>Miles Methodology</td>
<td>A6</td>
</tr>
</tbody>
</table>

**Table 6: Evaluation Criteria**

<table>
<thead>
<tr>
<th>Project activities</th>
<th>Index</th>
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</thead>
<tbody>
<tr>
<td>Update primary operators, executor, consumer, stakeholder</td>
<td>C1</td>
</tr>
<tr>
<td>Complement the overall environment</td>
<td>C2</td>
</tr>
</tbody>
</table>
Table 7. decision matrix (N)

<table>
<thead>
<tr>
<th>Type</th>
<th>Indicator</th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
<th>C7</th>
<th>C8</th>
<th>C9</th>
<th>C10</th>
<th>C11</th>
<th>C12</th>
<th>C13</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>6.5</td>
<td>5.7</td>
<td>7.7</td>
<td>6.5</td>
<td>7.5</td>
<td>8.935</td>
<td>6.5</td>
<td>6.5</td>
<td>6.5</td>
<td>6.78</td>
<td>4.935</td>
<td>5.88</td>
<td>6.88</td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>5.5</td>
<td>5.5</td>
<td>5.935</td>
<td>6.5</td>
<td>7.5</td>
<td>7.25</td>
<td>5.3</td>
<td>5</td>
<td>5.5</td>
<td>5.85</td>
<td>5</td>
<td>5.56</td>
<td>6.5</td>
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</tr>
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<td>A3</td>
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<td>6.88</td>
<td>6.54</td>
<td>7.5</td>
<td>7</td>
<td>5.35</td>
<td>4.88</td>
<td>7</td>
<td>6.85</td>
<td>5</td>
<td>5.77</td>
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<td>A4</td>
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<td>6.25</td>
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<td>5.5</td>
<td>7.5</td>
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<td>5.5</td>
<td>6</td>
<td>5.5</td>
<td>6.79</td>
<td>7.5</td>
<td>6.8</td>
<td>7.4</td>
<td></td>
</tr>
<tr>
<td>A5</td>
<td>8</td>
<td>7.5</td>
<td>6.88</td>
<td>5.5</td>
<td>6.5</td>
<td>5.5</td>
<td>7</td>
<td>7.5</td>
<td>6</td>
<td>7.43</td>
<td>7.5</td>
<td>8.6</td>
<td>8.35</td>
<td></td>
</tr>
<tr>
<td>A6</td>
<td>6.5</td>
<td>7.5</td>
<td>7.5</td>
<td>6.5</td>
<td>6</td>
<td>7.5</td>
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<td>7</td>
<td>5</td>
<td>8.435</td>
<td>7.935</td>
<td>9.22</td>
<td></td>
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</tr>
</tbody>
</table>

Note that the decision matrix is defined as calculus mean of all experts’ viewpoints.

- A1 to A6 indicated methods and C1 to C13 shows criteria.

In order to be comparable values, the decision matrix is converted to non-scale (\( N_i \)) matrix using the following equation:

\[
n_{ij} = \frac{r_{ij}}{\sqrt{\sum_{i=1}^{m} r_{ij}^2}}
\]

Table 8 shows the non-scale matrix:

Table 8: non-scale Matrix (\( N_i \))

<table>
<thead>
<tr>
<th></th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
<th>C7</th>
<th>C8</th>
<th>C9</th>
<th>C10</th>
<th>C11</th>
<th>C12</th>
<th>C13</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>0.334</td>
<td>0.298</td>
<td>0.361</td>
<td>0.34</td>
<td>0.353</td>
<td>0.452</td>
<td>0.32</td>
<td>0.345</td>
<td>0.35</td>
<td>0.344</td>
<td>0.253</td>
<td>0.285</td>
<td>0.296</td>
</tr>
<tr>
<td>A2</td>
<td>0.283</td>
<td>0.287</td>
<td>0.278</td>
<td>0.34</td>
<td>0.353</td>
<td>0.366</td>
<td>0.261</td>
<td>0.266</td>
<td>0.296</td>
<td>0.297</td>
<td>0.257</td>
<td>0.27</td>
<td>0.28</td>
</tr>
<tr>
<td>A3</td>
<td>0.334</td>
<td>0.282</td>
<td>0.323</td>
<td>0.34</td>
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<td>0.354</td>
<td>0.264</td>
<td>0.259</td>
<td>0.377</td>
<td>0.348</td>
<td>0.257</td>
<td>0.28</td>
<td>0.28</td>
</tr>
</tbody>
</table>
To obtain a weighted non-scale Matrix ($V$), the non-scaled matrix has been multiplied (obtained from previous step) in the square matrix ($w_{nn}^w$) that its diagonal elements indicate the index weights and other elements are zero.

$$V = N_1 \times w_{nn}^w$$

Table 9 shows the non-scale weighted Matrix.

**Table 9: non-scale weighted matrix (V)**

<table>
<thead>
<tr>
<th></th>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
<th>C7</th>
<th>C8</th>
<th>C9</th>
<th>C10</th>
<th>C11</th>
<th>C12</th>
<th>C13</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>0.024</td>
<td>0.021</td>
<td>0.026</td>
<td>0.024</td>
<td>0.025</td>
<td>0.032</td>
<td>0.024</td>
<td>0.025</td>
<td>0.025</td>
<td>0.024</td>
<td>0.018</td>
<td>0.02</td>
<td>0.021</td>
</tr>
<tr>
<td>A2</td>
<td>0.02</td>
<td>0.02</td>
<td>0.02</td>
<td>0.024</td>
<td>0.025</td>
<td>0.026</td>
<td>0.019</td>
<td>0.019</td>
<td>0.021</td>
<td>0.021</td>
<td>0.018</td>
<td>0.019</td>
<td>0.02</td>
</tr>
<tr>
<td>A3</td>
<td>0.024</td>
<td>0.02</td>
<td>0.023</td>
<td>0.024</td>
<td>0.025</td>
<td>0.025</td>
<td>0.02</td>
<td>0.019</td>
<td>0.027</td>
<td>0.025</td>
<td>0.018</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>A4</td>
<td>0.024</td>
<td>0.023</td>
<td>0.023</td>
<td>0.02</td>
<td>0.025</td>
<td>0.023</td>
<td>0.02</td>
<td>0.023</td>
<td>0.021</td>
<td>0.024</td>
<td>0.027</td>
<td>0.023</td>
<td>0.023</td>
</tr>
<tr>
<td>A5</td>
<td>0.029</td>
<td>0.028</td>
<td>0.023</td>
<td>0.02</td>
<td>0.022</td>
<td>0.02</td>
<td>0.026</td>
<td>0.029</td>
<td>0.023</td>
<td>0.027</td>
<td>0.027</td>
<td>0.03</td>
<td>0.026</td>
</tr>
<tr>
<td>A6</td>
<td>0.024</td>
<td>0.028</td>
<td>0.025</td>
<td>0.028</td>
<td>0.022</td>
<td>0.027</td>
<td>0.029</td>
<td>0.027</td>
<td>0.027</td>
<td>0.031</td>
<td>0.027</td>
<td>0.027</td>
<td>0.028</td>
</tr>
</tbody>
</table>

To determine the positive and negative ideal factor

At this stage we should identify set of choices that respondents characterize as the most important and most trivial factors. In other words, for the positive indicators the positive ideal is greatest amount of $V$ and negative ideal is the smallest value of $V$, also for negative indicators, positive ideal is the smallest value of $V$ and negative ideal is the largest amount of $V$. The following relationship implies this issue.

positive ideal

$$A^+ = \left\{ \left( \max_{i} V_{ij} \right) \mid j \in J \right\} \left\{ \left( \min_{i} V_{ij} \right) \mid j \in J' \right\} = \left\{ V_{1}^+, V_{2}^+, ..., V_{n}^+ \right\}$$

negative ideal

$$A^- = \left\{ \left( \min_{i} V_{ij} \right) \mid j \in J \right\} \left\{ \left( \max_{i} V_{ij} \right) \mid j \in J' \right\} = \left\{ V_{1}^-, V_{2}^-, ..., V_{n}^- \right\}$$

In these representations, $J$ implies Positive indicators and $J'$ denotes negative indicators.

Table 10 shows the positive and negative ideal.

**Table 10: positive and negative ideal of each indicator**

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Ideal positive</th>
<th>Ideal positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>0.029</td>
<td>0.02</td>
</tr>
<tr>
<td>C2</td>
<td>0.028</td>
<td>0.02</td>
</tr>
</tbody>
</table>
Figure 4: positive and negative ideal of each indicator

Rankings Options

At this stage the options are rated based on CL values; In other words, any option that has higher CL may achieve better ranking. Table 11 shows the ranking of options.

Table 11. Ranking options

<table>
<thead>
<tr>
<th>Rank</th>
<th>CL</th>
<th>Distance to Negative ideal</th>
<th>Distance to Positive ideal</th>
<th>Options</th>
<th>Raw</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0.38</td>
<td>0.02</td>
<td>0.022</td>
<td>A1</td>
<td>1</td>
</tr>
</tbody>
</table>
Finally, the results of options ranking using Topsis technique indicates that Value engineering methods using standard SAVE includes superior priority Iran's respect to other options. Figure 5 shows the ranking methods.

**CONCLUSION**

Different countries especially the developed countries have achieved great success by using value engineering techniques to save costs, increasing the efficiency, effectiveness, productivity, competitiveness and success in attracting a greater share of the market. In this regard, the requirement for generating culture and education in the implementation of value engineering in various fields, especially in the area of manufacturing industry in the country is sensed. Methodology have been considered value engineering positions at all levels of an organization from senior levels to staff level, encompassing brighter future than those methodologies which allocate less attentions to this issue. Value engineering experience made in Iran indicate that due to some unknown reasons acceptability and validity of value engineering is not confirmed which the main factor in this case, lack of completely understanding the different available methodologies concerning with value engineering.

In this paper in addition to introducing different methodologies of value engineering, six type of methodologies used in World are selected with assessment and analysis of required criteria for a value methodology and is evaluated through multi-criteria decision-making in TOPSIS which finally according to the experts viewpoints and the obtained results, it is observed that value engineering method using SAVE standard is appropriate option than the other 5 method for exploiting in projects within the country.

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TRADITION AND MODERNITY IN CONTEMPORARY ARCHITECTURE OF TURKEY  
(COMPARATIVE STUDY REFERRING TO TRADITIONAL AND INTERNATIONAL ARCHITECTURE IN 1940-1980)

Naser Hassanpour  
Ph. D student in Architecture. Department of Architecture, College of Architecture and Urban Planning, Central Tehran Branch, Islamic Azad University, Tehran, Iran.  
n.hassanpour@khuisf.ac.ir  

Hossein Soltanzadeh  
Associate Professor, Department of Architecture, College of Architecture and Urban Planning, Central Tehran Branch, Islamic Azad University, Tehran, Iran (Corresponding Author).  
hos.soltanzadeh@iauctb.ac.ir

ABSTRACT  
There are a lot of similarities in contrast between tradition and modernity in contemporary architecture of Islamic countries in twentieth century affected by internal factors and international influences. In mentioned years which coincided years after Atatürk's death till the most important contemporary military coup in Turkey, governmental supports of each one of tradition demander and modernist have been accompanied with some internal and external factors in some periods and the contrast of mentioned tendencies forms the contemporary architecture in Turkey. In addition to the identification and classification of Turkey contemporary architecture tendencies and their social and political backgrounds, through investigating each one of tendencies’ outstanding architectural monuments, this article is sought to investigate how these works are affected by traditional or international architecture. The ideas of architecture and urban planning famous experts of Turkey have been used for studying and classifying the works or mentioned tendencies and in order to analyze the samples, reliable and diverse sources and field observations have been used. In addition to classifying Turkey contemporary architecture tendencies in mentioned year in three general sub-categories and introducing indicator works of each one of mentioned tendencies, the results of research compare their effectiveness of traditional and international architecture.

Keywords: contemporary architecture, Turkey, traditional architecture, international architecture

INTRODUCTION  
Contemporary architecture of Turkey has been changed a lot affected by international transformations and political and social developments in the recent history of this country. More than anything else, contemporary architecture of Turkey is wounded by a sense of duality in the field of cultural identity. During the period of republication, the identity subject lasted with dichotomies such as east-west, religious, secular, national, global. By falling into the unknown abyss of contrast between traditions against modernity, this subject drew attention of political and cultural parties.

Considering the westernized trend, the French, German and American models have been imitated seriously during some specified periods, national trends have been formed in contrast with this approaches in specified periods. The current study investigates Turkey contemporary architecture tendencies in 1940 to 1980 in three known periods based on the ideas of this field scholars and in addition to identifying the approaches of sub-category of each periods, it investigatet referring to traditional architecture or following international style in works of each period.

RESEARCH HISTORY
There have been many researches about the contemporary architecture of Turkey and many of them which are related to second generation of studies about contemporary architecture of Turkey are published mainly in English. While the first generation studies (published in the seventies and eighties) suffice introducing the tendencies and indicator monuments of contemporary period, the second generation studies that Ms. Sibel Bozdogan is considered as one of its pioneer, investigate the effectiveness of numerous social and cultural factors on architecture and relates urban construction and architecture transformation to social developments among the masses.

After independence war (1920-1922) and announcing Republic of Turkey in 1923, “the beginning of second decade of twentieth century in this country was naturally allocated to repairing destructions and stabilization of the political situation after World War I. the reformations in this country was sought to create a national government on the ruins of the Ottoman Empire. Functional priorities in the field of architecture and urban planning are introduced as below:

1- Constructing service buildings with engineering investment such as nationalization of semi-finished buildings and improving transportation network
2- Restoration of Anatolian cities which were ruined in the war and constructing service buildings with small scale
3- Constructing Ankara as the modern capital city

Republic of Turkey was trying to release itself from Ottoman image and creating a combination of nationalism in ideal Republic “(soheyli & Diba, 2010: 35). This caused forming a coherent flow in architecture of Turkey. “Due to the urban development of Ankara to a modern city as one of the achievements of the republican government, the profession of architecture faced with a serious challenge. So, the republican leaders, seeking for the solutions, turned to the protagonists of what is now called as “the First National Architecture Movement” (Droudgar & Fahimfar, 2014:11). The first national architecture movement was an eclectic approach to combine western classical architecture with the principles of Ottoman architecture.

Considering the reluctance of republicans to representation of Ottoman architecture, the transition period didn’t last a lot and these conditions have changed since 1927 and considering political events, there have been many efforts for setting up a national government and republic institutions (Soheyli and Majedi, 2011: 54). This period is known as overcoming modern architecture on cubic method in government buildings leading by foreign architectures mainly German ones in Turkey.

METHODOLOGY
This study is qualitative in terms of content whose base will be interpretive-historical research where in addition to documental studying of social, political and historical backgrounds which have been effective on the contemporary architecture of Turkey, the formed tendencies in the trend of developments in contemporary architecture of Turkey will be introduced and after that, through studying contemporary architecture trends of Turkey and indicator works of each tendencies for documentary and field study, the comparative study between referring traditional architecture or international one in the tendencies indicators of architecture in this period will be investigated.

POLITICAL AND SOCIAL BACKGROUND AND THE FLOWS OF CONTEMPORARY ARCHITECTURE OF TURKEY IN 1940-1950
After Atatürk's death, there was no conflict about Atatürk's successor. According to Shaw Ismet Inonu the loyal officer to Atatürk who was with him for twenty years from independence wars to renewing Turkey was chosen as president and permanent chairman of the Republican People's Party. He faced two main crises during his presidential years; these two crises included World War II that started less than a year after his arrival and increasing demand for liberal reforms that was discussed after war (Shaw, 1991).

At this time, Turk scholars were drawn to nationalism to imitate the Nazi Germany and Fascist Italy. “The motto of papers such as Arkankon and Bozkurt which were used to be published from 1938 to
1942 and then since 1948 in Istanbul was “Turkish race is superior to other races”. Since then, Pan-Turkism has been turned into one of ideological bases of ideological carriers, advertising carrier of righties and conservative circles in Turkey” (Entekhabi, 2011: 114).

End of war in Europe didn’t mean end of war in Turkey. Soviet pressures on Turkey to join east and 1946 Soviet territorial claims threatened it militarily as well as expanding communist flows and economic crises after war had weakened this country’s economy. These pressures led Turkey to emerging global arena power that was America. Turkey’s security was guaranteed through announcing Doctrine Truman and Marshal Plan which represented military and economic help of America and as result the international position of Turkey was strengthened and its responsibility in internal investment was reduced.

Only two years after Atatürk's death, national architecture widespread in Turkey while the roots of forming this flow referred to the years of 1930s and architectures’ criticism from cubic architecture. Also “In the 1930s Sedad Eldem assumed the leadership of the so-called national architecture movement (milli mimari hareketi) to combat the "Ankara cubic" of Egli and Holzmeiser. Under his leadership a national architecture seminar was established at the academy in 1934. Over the years, this seminar turned into a monumental enterprise to study and document the surviving examples of traditional wooden houses” (Bozdogan & kasaba, 2001: 263).


Eldem considered traditional Turkish houses as modern concept of house and used to admire existing rational and functional logic in these houses and its architectural integration with nature. In addition to Eldem, the role of Bruno Taut, German prominent architect, who admired traditional architecture of Turkey in his articles and speeches, is very important. "Generally, many reasons are discussed for reemerging nationalism in the architecture of Turkey that some of them can be mentioned below:

1- Economic crisis derived from Second World War and lack of constructional materials such as steel, glass and cement which were required for modern construction.

2- Psychological influence of Second World War which created national attachment sense and resistance against foreign pressures.

3- Related organizations and ministries’ support of setting rules that can create Turk architecture style in order to maintaining coordination and monotony in the face of the city.

4- National architecture seminars in 1934 by Sedad Eldem

5- Ankara's strong relations with the Soviet Union and fascist Italy that caused these two countries to advertise their achievements in the field of nationalism” (Batur, 2005: 33-37).

In the years of 1940s, a jury foreman was formed for specifying the approach of these monuments and controlling their characteristics whose reputed people such as Paul Bonatz were famous faces for the second national architecture movement. His effectiveness from the architecture of Turk houses is obviously specified in his most important work in turkey in designing Sarcuğlu neighborhood in Istanbul. In late 1940, there were more than 300 activated architectures in Turkey. They could form an effective lobby for the exclusion of foreign architects.
POLITICAL AND SOCIAL BACKGROUND AND THE FLOWS OF CONTEMPORARY ARCHITECTURE OF TURKEY IN 1950-1960

The fifties of the twentieth century was major developments period in the lives of Turkish in many ways. “After a two-party system was establish in 1946 the democrat party came to power with the elections on May 14,1950. Development strategies were now to emphasize the role of private sector”(Tapan,2005:105).Democrat party started their liberal reformations rapidly. The democrats who were in power made a severe driving force in Turkey. New Prime Minister Adnan Menders led the new policy without any control and tried to get the country away from Atatürk's policy that was still reputed all around Turkey. The plan of new reformations was a lot but any promises who were made couldn’t reach the desired result.

In conditions that internal crises had Turkey faced with a lot of problems, “In foreign policy, Turkey’s pro-Western reorientation continued during the 1950s. … The founding of NATO in 1949 prompted Turkey’s application for membership the next year. … The Turkey of the 1950s could not have experienced growth in both its economy and its military without such investment”(Vaughn Findely,2010:309).

The years of 1950s were the years of Turkey passing the crises after the war and emerging new party of democrat as a modern party with populist attitudes in politic scene of Turkey. “With their rule a rather liberal approach quickly took hold and private entrepreneurship gained importance. In this context , the architectural community had a chance to satisfy their demands for governmental support on private practice”(Imamoglu,2010:64). Private employers became increasingly important.

In this era “A younger generation of Turkish architects established themselves in private practice outside state patronage and produced works that reflect the aesthetic canons of international style in all its post-war variations: from the American corporate style of the 1950s to works of LeCorbusier and Latin American modernism. Manifested itself primarily in austere-looking government complexes, educational buildings and cultural institutions, cutting-edge architectural production after 1950 was most visible in hotels, offices, shopping centers, commercial and recreational projects, with taller apartment blocks emerging as the dominant residential typology”(Bozdogan & Ackan,2012:107).

In this era the concept of west changed from Europe to America for Turks. “1950s presented a clear “Americanization” in building and life culture, parallel to the shift in the conception of the “West” in the society. The flow of foreign aid from US to Turkey at the time, and the accompanying aspiration to become “the little America”, determined the new direction of identity and its suiting architecture”(Balamir,2003:39).

The presence of America was simultaneous with the European architectures leaving that the years before had main role in professional training of architecture in Turkey. “After the end of the World War in 1945 some foreign architects returned to their countries. But a more important fact that affected their practice was the campaign in the Turkish architectural scene against their dominance, which had its solid result in 1954 with the law on the newly founded Union of Chambers of Turkish Engineers and Architects”(Imamoglu,2010:52).

From the effective factors on the architecture of this era according to Tapan, the cases below can be mentioned. First, the rapid growth of cities made comprehensive master planning a necessity. Second, the construction industry expanded rapidly to answer increasing demand. Third, a law governing buildings was introduced in the Grand National Assembly in 1951. In an attempt to regulate and discipline architectural activity, the ministry of Public Works issued new regulations for planning and architectural competitions. Finally, the Turkish Chamber of Architects was establishing by the law no.6235 of 1954 (Tapan, 2005).

Close relationship with west and availability of materials and western techniques besides economic development in this era caused constructing residential apartments in expensive parts of cities that middle class couldn’t afford buying houses in those areas. Luxury and the using western model in
designing plan and the size of these buildings prevailed a new lifestyle imitating west in big cities of Turkey. In the years of 1950s and 1960s affected by economic developments and Turkey moving toward industrialization and its ongoing modernization process in contemporary era, “Migration to towns, housing shortage, and lack of sufficient accumulation of capital gave way to urbanism that operated with relentless pragmatism and speculative interests” (Balamir, 2003:35).

**POLITICAL AND SOCIAL BACKGROUND AND THE FLOWS OF CONTEMPORARY ARCHITECTURE OF TURKEY IN 1960-1980**

Finally after protests of different classes, in May 27th 1961 the army took the control of company by a coup which is named as “National Modern Revolution”. “There was no resistance against the coup of militaries in 1960 and overthrowing the government of Adnan Menders. Even university professors, students and the other middle class groups who were the main supporters of the Democrats in the 1950 election turned to main adversary force of Menders government” (Rajabzadeh & Fazeli, 2012: 87).

After the coup, military generals left the power for politicians through election and therefore the new constitution was adopted in 1961 and the second era of republication started. “While the early years of sixtieth century were simultaneous with increasing social freedoms and establishing economic program, rapid industrialization and fair distribution of wealth, economy crisis in the end of the decade sparked a wave of unrests which were manifested through street unrests, labor strikes and political assassination. Students and workers’ movements of the left side formed that were competing the right side and national militant groups” (Zurcher, 2004: 258). “On the contrary, following the multi-party politics, two direct military coups in 1960 and in 1980 occurred. In addition, in 1971 and 1997, indirect interventions were witnessed. The recent case of e-memorandum shows that the TAF still sees itself as the ultimate guarantor of the regime. … The military elites need to change their behavior and threat perceptions for the sake of democratic consolidation of Turkey” (Burak, 2011: 165-166).

Conditions in Turkey in the years after 1970 were on the wane. “The post-1973 years were the worst period for Turkey to be led by weak and indecisive governments totally lacking in direction. Not only did the economy have to cope with the oil-price shock of 1973, it had also to absorb the blows of the European economic downturn which ended the demand for Turkish labour” (Ahmad, 2002:176).

“Despite a great deal of social unrest, the two decades between 1960 and 1980 saw important new developments: the growth of industry and business, the emergence of pluralistic world view and new concepts introduced by it, the establishment of an urban way of life with its concomitant attitudes and values, and the rise of social consciousness which pervaded current thought. These constitute the causal background for the architectural ideas of the last two decades” (Yucel, 2005,121).

Affected by a multi-party flow governing society in the years 1960-1980 which were known as tumultuous years in the contemporary history of Turkey; freedom of expression and pluralism of social ideas, a kind of polyphony and discontinuity could be seen in architecture and urban constructing of Turkey. With increasing social consciousness, social knowledge became more important in architecture era. With expanding industrialization in Turkey “Another phenomenon influencing architectural practice after1960 was rapid industrialization. First building materials industries for the domestic market were established. These industries were not aimed at solving or rationalizing the housing problem in Turkey; their object was the middle and upper-class housing produced by contractors” (Tekeli, 2005:28). In late years of this era, economic recession stopped mentioned projects.

Because of political turmoil during these years and lack of stable political power with developed program and parallel economic and industrial development of Turkey, now big holding companies and banks had turned to appropriate employers for architectures. Industrial development of Turkey and modern architecture becoming endemic in turkey created a huge development in construction method. “During the period of its preeminence, social criticism had concerned itself with form only in two cases. First in an attempt to create the so called “New National Architecture” it unavoidably referred to the earlier National Movements, and provided them with a social content. Second, it searched for a
new theoretical synthesis, inspired by the works of Tafuri and structuralism, and the latters impact on Marxist thought” (Yucel, 2005:123).

Table 1- Political and social background and the flows of contemporary architecture of Turkey in 1940-1980, source: the author

<table>
<thead>
<tr>
<th>Years 1940-1950</th>
<th>Social and political backgrounds</th>
<th>Architecture and urbanism revolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Political and economic crisis of subsequent war years and the spread of nationalism to resist external pressures. Inonu substitution instead of Ataturk - liberal freedom. Joining the West in The Marshall and Truman Plan in the late 40s. The creation of the religious and opposed first trends.</td>
<td>German architects role in managing professional training and Architecture education. The economic crisis caused by the war and restrictions on the import of building products. Turkish public support for a coordinated plan for government buildings. Acceptance of the Hittite and Urartu and Seljuk architecture as Turks architecture. The second national movement with a focus on traditional houses architecture and civil architecture and vernacular Anatolian architectural competition and the role of Paul Bonatz in leading the competitions. Focus on the study of vernacular architecture and traditional houses in architecture education.</td>
</tr>
<tr>
<td></td>
<td>Emerging Democratic Party with populist policies. Alliance with the West and Europe - following the American model in all aspects - financial and military aid of America. Strengthening the agricultural sector according to populist policies. Chaos and economic stagnation and political terror in the late 50s as a result of government mistakes.</td>
<td>Availability of Western construction methods and forms of international modernism-developing expensive homes-promoting international modernism. Promoting American modernism to imitate the Hilton Hotel integration of architectural and plastic arts (painting, sculpture, etc). Urban sprawl and promoting modernism contractor and the formation of marginal illegal settlements (Jeckondu). The law of 1958 to manage construction and cooperatives. The prevalence of private sector housing construction and builders and sellers. Historical context destruction due to the expansion of urban highways. Establishment of the chamber of Architects and middle east technical university based on the American model.</td>
</tr>
<tr>
<td>Years</td>
<td>1960-1970</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>The first military coup and changing Constitution- the beginning of the Second Republic. then the second coup in 1970 and third in 1980.</td>
<td>Increasing social conscience and impact of social knowledge on architecture. Holding companies and banks and the private sector as an employer, industrialization buildings and designing industrial buildings. Pluralism in architectural trends among the leading architects. Opening Bogaz bridge and Kocatepe mosque. Increasing student population and faculty of architecture and unemployment crisis between architects - the difference between the left and right tendencies in architecture education.</td>
<td></td>
</tr>
<tr>
<td>Economic growth in 60's and unprecedented inflation and recession in the 70 plus political turmoil and terror. Increasing social consciousness - expanding urban lifestyle. Establishing a weak coalition governments. Expansion of Industry and Commerce in the 60 - imports of luxury goods. Expansion of extremist ideas of pan-Turkism and left and right trends. The spread of uncontrolled migration to cities.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

IDENTIFYING THE TENDENCIES OF CONTEMPORARY ARCHITECTURE OF TURKEY IN YEARS 1940-1950

Referring to traditional architecture was accomplished in the flow of second national movement with focus on referring traditional Ottoman houses architecture especially in academic and professional circles. But beside this flow, other forces such as Pan Turkism that through discussing “Turkish history thesis” (TTK in Turkish) was looking for representation of architecture of Turkey before Islam and especially Hettite and Urartu architecture on one hand and on the other hand German and Italian fascist architecture and Soviet socialist architecture as the other forces were effective in contemporary architecture of this era.

While Batur refers to three approaches in the architecture of second national movement, according to Tekeli, four separated approaches can be specified in this era which is more acceptable in terms of scholars. The first approach is regionalism approach that based on it the architectures should pay attention to cultural continuity in architecture as well as using local materials and conforming to climate conditions of the country. Faculty of Language, History and Geography in Ankara (Image 1 and 2) designed by Bruno Taut is the excellent sample of this tendency. Bruno Taut who was considered as the adversaries of modern movement focused on the sense of touch and structural ornaments instead of shells devoid of modern architecture decoration.

He also avoided mere nativist and believed that native and traditional components should be used besides modern construction method. Referring building to Turkish architecture because of using alternating walls of stone and brick (Almashik) in the method of early republication in lateral wings and turquoise sharp tiled decorating in entry hall has been accepted (Aslanoglu, 1980). The tangible transformation from stone to plaster in lateral view and accurately set details between window frame and stone especially designed gutters and lamps, curved shells and prominent details of nobs can be mentioned as prominent features of this building. “Just as in many of high schools, Taut used a specific window detail by with sun-shading beams placed at mid-height. Avowedly inspired by “old Turkish houses”(Bozdogan & Ackan,2012:64). Besides this building, Faculty of Science and Literature in Istanbul is considered as another prominent monument where constructed historicity architecture principles or rationalist neoclassical with monumental buildings and symmetrical building have been combined with elements of traditional Ottoman houses such as wide and continuous eaves and Chikma Windows pattern (Image 3).

The second approach can be named as nostalgic architecture. This approach was looking for past brilliant view and tried to show that past values are still validate. “Gabriel argued that Istanbul houses were actually modern and would yield better results than cubic architecture if only wood were to be
replaced by concrete”(Tekeli, 2005: 21). Eastern cafe (Tasilik Coffee house) in Istanbul (Image 4) and Turkey Pavilion in global exhibition of 1939 in New York are considered as prominent works of this style.

**Image 1**: Faculty of Language, History and Geography of Ankara, source: Edrim, 1996: 104

**Image 2**: Internal steps of Faculty of Language, History and Geography of Ankara, source: Edrim, 1996: 112

In tasilik coffee house of Eldem, getting effect from Turkish traditional houses was obviously clear. The general form of building reminds us Ottoman villas in the form of pavilion in the garden. Completely concrete rigid platform like middle spaces and mass in ground floor and light structure upper floor make this effect more clear. “This historical building where regional architecture features were completely obvious in it only used to follow modern architecture principles in execution. Building of coffee house referred to traditional large central sofa diagram which had lateral masses which ended to a central cubic space which was opened to four directions” (Batur, 2005: 39).

**Image 3**: Faculty of Science and Literature Istanbul, source: Author 2014

**Image 4**: tasilik coffee house work of Seddad Eldem Source: Bozdogan & Ackan, 2012: 101
The third approach instead of upper class of Istanbul is populist approach which is raised from Anatoly which focus on Anatoly unknown and sustainable life values. The ideas of Oelsner can be considered as representative in recreating Anatolian life patterns in urban plans. The houses designed by Emin Onat like Cenap house and housing construction project of Kosuyolu (Image 5) the work of Ozden and Turgat and the first housing project of Levent (First Levent District) work of Aru and Gurbon are considered as prominent works of this tendency.

The fourth approach which is called Chauvinist focus on monumentalism in building and looks for Turkish historical representation in architecture works and referring classical architecture and Ataturk's mausoleum (Image 6) designed by Emin Onat and Orhan Arda can be considered as the sample of this style.

The plan of this building was formed in a big international competition that Paul Bonatz had a significant role in choosing the final plan as a referee. “It is traditional as well as modern; it combines the Turkish tradition of “turbe” and Anatolian tradition of mausoleum in a new, modern manner. It employs traditional building materials and construction methods as well as modern ones. It makes use of traditional decoration as well as of art forms of non-Turkish origin such as reliefs and status. It is monumental but still has a geometrical simplicity of fine proportions and excellent detail”(Alsac,2005:100-101). This building is a constructed manifest from a theory that relates the history of the people of mediterranean and world civilization to the history of Turkish people.

IDENTIFYING THE TENDENCIES OF CONTEMPORARY ARCHITECTURE OF TURKEY IN YEARS 1950-1960
With the arrival of imported goods to Turkey in the field of construction industry and economic contributions of America and availability of modern technique and activity in foreign companies in the construction field of Turkey and emerged tendencies in urban modern life, international architecture was preferred on traditional and vernacular architecture in Turkey.

Inspiration for architects in the late 50 included two categories, “The first was American corporate modernism, especially the glass curtain wall epitomized by such projects as Lever House, New York (1952) by Skidmore,Owings & Merrill (SOM) or Mies van der Rohes Seagram Building (1958) , both of which were widely publicized by the architectural media at the time. … The second, equally powerful influence was that of the post-war work of Le Corbusier, especially the paradigmatic Unite d Habitation (1948) as well as the Corbusian work of Latin American and Caribbean architects”(Bozdogan & Ackan,2012:115-116).

As the most important building of first approach, Hilton Hotel in Istanbul (Image 7) which was designed by S.O.M and the cooperation of Seddad Eldem as local architecture and rapidly turned into splendid symbol of American modernism on a hill in the prominent position in Istanbul. Modular Plan and view with the cubic volume and concrete structure in years after that became the pattern for many buildings in Turkey such as Cinar Hotel and Istanbul City Hall. “It is also a textbook case of modern architectures role in U.S Cold War politics , at a time when the designs of U.S embassy buildings and Hilton hotels were seen as powerful visual instruments of projecting a positive image of America abroad”( Ibid:116).Other prominent buildings such as cultural center of Ataturk designed by Hayati
TabanLioglu with glass curtain wall facing Taksim Square and organization of Water Affairs Management with similar pattern are considered as the followers of this approach.

<table>
<thead>
<tr>
<th>Image 6: mausoleum of Ataturk by Onat and Arda in 1912</th>
<th>Image 7: Hilton Hotel of Istanbul Source: Author 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: <a href="http://www.transanatolie.com/english/turkey/in">http://www.transanatolie.com/english/turkey/in</a> 20%brief/museums/Topkapi/Porcelains/ataturk 20%mausoleum.jpg</td>
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<tr>
<th>Image 8: The hukukcular residential complex</th>
<th>Image 9: The Turkish Pavilion at Expo Brussels, source: Banci, 2009: 69</th>
</tr>
</thead>
</table>

Many residential buildings were built in Turkey based on second approach such as hukukcular residential complex (Image 8) designed by Haluk Baysal and Melih Birsel that represented the idea of Le Corbusier's united habitation with its all components such as the pilot, a garden terrace, and central street and its aesthetic principles. The other important building in this approach is Cinnah 19 apartment building. The architect of project Nejat Ersin has clearly stated that during designing this project, he had been inspired with international architecture and some architects such as Le Corbusier, Oscar Niemeyer, Lucio Costa and Edward Durell were his inspiration. For example the building of housing unit in Marseille has been noticed by him.

At this time, in interaction with the mentioned approaches in designing state buildings. “Another argument against the alleged monotony of 1950s Turkish modernism can be found in the “integration of plastic arts”, or the collaboration between architects, painters, muralists and sculptors. During the 1950s and 60s many prominent Turkish architects including haluk Baysal , melih Birsel , Utrait Izgi , Turgat Cansevar , and Abdurrahman Hanci, worked on the synthetic idea of combining modernist concept of space and construction abstract/non-figurative original artworks”(Ibid:130).
The best sample of that was formed in designing Turkish Pavilion at Expo Brussels (Image9). In criticizing this work Bozdogan refers the interaction between tradition and modernity and interaction between architecture and other arts as well as the role of national-state of Turkey in global exhibition. Using some of details related to Hettit architecture in interior spaces refers to old civilization of Turkey and wall tessellation is also reminder of Ottoman architecture.

IDENTIFYING THE TENDENCIES OF CONTEMPORARY ARCHITECTURE OF TURKEY IN YEARS 1960-1980

Years of the 1960s and 1970s are the years of sequential shift in the political system and freedom of speech and polyphony in social and cultural fields. This fragmentation was also repeated in architecture and urban construction either affected by lack of supporting a special approach by governmental system. “Distinguished architects of late 60s and 70s turned from International Style to variations on Organic Architecture and new Brutalism. The formal articulation of both surrendered soon to the mainstream paradigm , through applications of several formulae: using irregular of geometries in plan composition and/or fragmenting bulky forms into smaller scale masses , and subdivision of facades with numerous mullions revealing the modular order. Sedad Eldem's Social Insurance Institution (Image 10) embodying such formulate was the model to many buildings for decades to come”(Balamir,2003:33).

Converting the huge constructional blocks to fragmented blocks which acted coordinated with environmental traditional texture beside abstract function of architecture features of Anatoly traditional houses beside modern aesthetics in total view of building drew attention in this work and brought Aga Khan Prize for this building. Combination of aesthetic principles in was repeated in this building besides the idea of industrialization in Istanbul Trade Center building (Image 11) designed by Orhan Shahinler, a building whose design reminds us modern monumentalism.

The other effective architecture of this period was Turgut Cansevar who had Phenomenological view to the history in architectural. Using architectural words which related them to the historical texture that it was located there and the function of decorations in detail used to appear clearly in his works. His most important work was Turkish historical society (Image 12) that inspiring with the pattern of Turkey historical schools showed the function of light and materials in a conceptual form and with particular sensitivity to the available ground and texture and hidden values in past architectures. “For turgat Cansevar , Semantics related to historicity in architecture have a metaphysical significance . They derive from “the unity of forces and the commandments of being [which] determine existence and its community. He also calls the communicative ways of this existence and continuity “ornamentality,” a concept he advocates”(Yucel, 2005:125).

Following modern brutalism pattern in Middle East Technical University by Behruz Cinicci and Altug Cinicci was very effective in expanding this idea in many other architecture works. The existing aesthetics in the design of this building was inspired by different sources. The effect of Japanese architecture, Alvar Aalto, Bakema, Rodulph, Gowan and Stirling architecture can be seen in this
building. “METU department of architecture was the first building in turkey presenting such character. In its architectural form, being still almost in pristine state, there are visible many solutions typical of brutalism, such as: strong articulation of solids composed in an orthogonal geometry; the use of raw buildings materials – concrete sun-breakers, gargoyles and cornices. Altug and Behruz Cinicci were also inspired by local architecture and that’s why the building brutalist but also traditional” (Zelef & Niebrzydowski, 2012:21).

In designing different sections of Middle East technical university besides modern brutalism ideas, following organic architecture in American style of Frank Lloyd Wright and Germany organic architecture as well as Alvar Aalto can be clearly seen. The features of organic architecture are obviously clear in the plan of university auditorium. Plasticity curved surfaces coated with cement plaster and rows of bricks on the side of free-form can be clearly seen in designing this building. Such these features can be also seen in the building of Central Library of the University of Istanbul designed by Hadi brothers. Of course the first organic architecture tendencies refer to Sheraton Istanbul hotel building, a building whose construction lasted from 1974 to 1985.

The other prominent tendency in the architecture of this era can be seen in open air museum of Karatepe by Turgut Cansevar in the form of regionalism modern architecture. The definition of Anatoly vernacular and regional architecture components in modern form has been noticed a lot in this work. “In a series of articles written in 1961-2 Kuban defined the new regionalism as a response to “environmental conditions”, which he elaborated as rational and candid evaluation of a countries facts. He insisted that Actual Regionalism would be different from historicism, folklorism and nationalism, or from any version of a priori formalism, a category in which he included the international style” (Bozdoğan & Ackan, 2012:186).
On the other hand modern monumental orientation was appeared in combination with technology development in high-rise tower architecture such as the Odakule tower and I.S.Bank tower. In this period the quality of symbolism or monumental architecture in architecture occurred through the height or extreme horizontality in buildings where looking for achieving a united expression by form. Technology and evolution in details and expensive materials which used to be represented by huge business in simple forms with form single word, created a new method in monumental architecture in the works of this period. The building of Turkish language society (Image 15) by Cengiz Bektos and AKBank by Eldem are considered as prominent works of this era.

While the contrast of mentioned tendencies forms the total face of two sixtieth and seventieth decade, the discussed tendencies in fortieth and fiftieth in spite of that are place in two decades in two adversary pole, are more aligned. Table 2 separates the mentioned tendencies in 1940 to 1980 in Turkey and investigates the traditionalism or modernism (international) features in these works.

**Table 2** - Tradition and modernity in Turkey contemporary architecture approaches in 1940-1980

<table>
<thead>
<tr>
<th>Approach</th>
<th>Sample projects</th>
<th>Traditionalist features</th>
<th>International features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regionalism Architecture</td>
<td>Faculty of Language, History and Geography - Bruno Taut</td>
<td>The use of vernacular and traditional motifs Combining elements of traditional Ottoman houses architecture on the aesthetics principles of building</td>
<td>Following the principles of rational neoclassical architecture or monumental architecture in general form Taking advantage of modern principles and techniques in construction</td>
</tr>
<tr>
<td></td>
<td>Faculty of Science and Literature in Istanbul Emin Onat, Sedad Eldem</td>
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<td></td>
<td>Radio Istanbul - Atgular et al</td>
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<tr>
<td>Nostalgic Architecture</td>
<td>Turkish Pavilion at Expo New York - Sedad Eldem</td>
<td>The use of vernacular and traditional motifs The physical organization of building on the pattern of traditional houses Representation traditional functional patterns (central sofa, Chikma, etc).</td>
<td>Taking advantage of modern principles and techniques in construction</td>
</tr>
<tr>
<td></td>
<td>Eastern café - Sedad Eldem</td>
<td></td>
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</tr>
<tr>
<td>populist Architecture</td>
<td>Cenap house - Emin Onat</td>
<td>The use of vernacular and traditional motifs and traditional construction methods The physical organization of the building based on the pattern of traditional houses Representation of the traditional context in Anatoly</td>
<td></td>
</tr>
<tr>
<td>(Anatoly Vernacular Architecture)</td>
<td>The first Levent housing - Turgat and Ozden</td>
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<td></td>
<td>Kosuyolu - work of Aru and Gurbon</td>
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</tr>
<tr>
<td>Years of 1950-1940, the Second National Architectural Movement</td>
<td>Mausoleum of Ataturk - Emin Onat, Orhan Arda</td>
<td>The use of ornaments and vernacular &amp; traditional motifs with special attention to the architecture of the Hittites and Urarto Referring to the traditional behavior patterns Referring to the traditional</td>
<td>the representation of western classical architectural principles in physical organizing and Aesthetic principles Modern manufacturing techniques combined with traditional patterns</td>
</tr>
<tr>
<td>Symbolic Functions (Tradition of Turbe)</td>
<td>Years of, international modern architecture</td>
<td>Patterns of Fragmented blocks Contextualism Architecture</td>
<td>Years of 1960-1950, International Modernism Architecture</td>
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<tr>
<td>American corporate Modernism Architecture</td>
<td>Hilton Hotel Istanbul, S.O.M and Sedad Eldem</td>
<td>Combining traditional arts and crafts in the form of mural, tessellation etc. with modern art in some works</td>
<td>Hilton City Hall Neyzat Erol</td>
</tr>
<tr>
<td>Istanbul City Hall Neyzat Erol Ataturk Cultural Center - Hayati Tabanlioglu</td>
<td>Following the principles of modern aesthetics Using western manufacturing techniques Following the principles of functionalism</td>
<td>Following the principles of modern aesthetics Using western manufacturing techniques Following the principles of functionalism</td>
<td></td>
</tr>
<tr>
<td>Modern architecture of Le Corbusier and Latin America</td>
<td>hukukcular residential complex - Haluk Baysal , Melih Birsel Cinnah 19 Apartments - Nejat Ersin</td>
<td>Following the principles of modern aesthetics Using western manufacturing techniques Following the principles of functionalism</td>
<td>Hilton Hotel Istanbul, S.O.M and Sedad Eldem</td>
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<tr>
<td>Patterns of Fragmented blocks Contextualism Architecture</td>
<td>Social Security complex - Sedad Eldem Complex of retail shops Tekeli Siza, Hepgular</td>
<td>Representation of traditional architectural elements in abstract representation The use of fragmented blocks to match the traditional context Traditional architectural elements in abstract representation</td>
<td>Following the principles of modern aesthetics Using western manufacturing techniques Following the principles of functionalism</td>
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<td>Social Security complex - Sedad Eldem Complex of retail shops Tekeli Siza, Hepgular</td>
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<tr>
<td>Historicism Architecture</td>
<td>Turkish historical society - Turgat cansvar Dutch ambassador's house - Sedad Eldem</td>
<td>Representation of traditional architectural elements looking phenomenological representation of a sense of place of traditional spaces</td>
<td>Following the principles of modern aesthetics Using western manufacturing techniques Following the principles of functionalism</td>
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<tr>
<td>Turkish historical society - Turgat cansvar Dutch ambassador's house - Sedad Eldem</td>
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<td>Following the principles of modern aesthetics Using western manufacturing techniques Following the principles of functionalism</td>
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<tr>
<td>New Brutal Architecture</td>
<td>Middle East Technical University Department of Architecture - Behruz and Altog Cinicci</td>
<td>Traditional architectural elements in abstract representation</td>
<td>Following the principles of brutal aesthetics Using western manufacturing techniques Following the principles of functionalism</td>
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<tr>
<td>Middle East Technical University Department of Architecture - Behruz and Altog Cinicci</td>
<td>Following the principles of brutal aesthetics Using western manufacturing techniques Following the principles of functionalism</td>
<td>Following the principles of brutal aesthetics Using western manufacturing techniques Following the principles of functionalism</td>
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<tr>
<td>Organic Architecture</td>
<td>Middle East Technical University library - Behruz and Altog Cinicci Sheraton Hotel - Aru and others</td>
<td>following the aesthetics principles of organic architecture of American and European Using western manufacturing techniques Following the principles of functionalism</td>
<td>Following the principles of brutal aesthetics Using western manufacturing techniques Following the principles of functionalism</td>
</tr>
<tr>
<td>Middle East Technical University library - Behruz and Altog Cinicci Sheraton Hotel - Aru and others</td>
<td>following the aesthetics principles of organic architecture of American and European Using western manufacturing techniques Following the principles of functionalism</td>
<td>following the aesthetics principles of organic architecture of American and European Using western manufacturing techniques Following the principles of functionalism</td>
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<tr>
<td>New Regionalism Architecture</td>
<td>Karatepe open air museum- Turgat Cansevar</td>
<td>Response to environmental conditions with an emphasis on vernacular innuendo</td>
<td>Using western manufacturing techniques Following the principles of functionalism</td>
</tr>
<tr>
<td>Karatepe open air museum- Turgat Cansevar</td>
<td>Using western manufacturing techniques Following the principles of functionalism</td>
<td>Using western manufacturing techniques Following the principles of functionalism</td>
<td>Following the principles of functionalism</td>
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</tbody>
</table>
Traditional architectural elements in abstract representation
The use of traditional materials and techniques

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<tr>
<th>Traditional architectural elements in abstract representation</th>
<th>Functionalism</th>
</tr>
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<tbody>
<tr>
<td>New Monumental Architecture</td>
<td></td>
</tr>
<tr>
<td>I.S Bank Tower - bokeh, Yılmaz, Sargyn Turkish language society by Cengiz Bektas</td>
<td></td>
</tr>
<tr>
<td>Representation of traditional architecture principles in physical organization in some cases</td>
<td>Taking advantage of Western manufacturing techniques relying on perfect details Following the principles of functionalism Single expression in physical form</td>
</tr>
</tbody>
</table>

**CONCLUSION**

Investigating the developments of contemporary architecture in Turkey represents wandering between two poles of referring traditional architecture and imitating western architecture. This is an event that has happened similarly in other countries such as Iran. About Turkey and in studied periods, the role of governmental policies in tending to each one of mentioned pole is important in the first two decades which have been accompanied with internal and external cultural and social development. In the years of 1940s, traditional architecture is preferred considering the architecture of traditional Ottoman houses. Discovering traditional Ottoman houses and recognizing the rational properties hidden in it was aligned with the tastes of republicans and caused that republican politicians look at these houses as the symbol of Turk modern nation in global era. This subject besides backgrounds of war crisis and the year after that and governmental policies in creating coordinated theme in architecture of state buildings with forming some institutions for planning and controlling this flow led to forming the second national architecture movement. While affected by multi forces forming this flow, different branches were emerged in the architecture of these years, all of their abonnement was recognizing and representing traditional and vernacular architecture of Turkey that included a wide period of recent years till ancient era.

The advent of the Democratic Party as the head of Turkey government in 1950s was accompanied with particular western tendencies especially America and the elimination of backgrounds of the post-war crisis. Tending to international architecture in these years was place on the opposite side of architecture in 1950s. While following international architecture principals in prominent projects of this decade used to be done with high international quality and standard, the most emergence of this flow in following west in contractor vernacular modernism and technocratic modernism only noticed a little aspect of producing architecture.

The years of 1960s and 1970s was accompanied with polyphony in dominant political flows and lack of induction trend towards one of two poles of traditional and vernacular architecture and international architecture. Simultaneously with vernacular of modern manufacturing techniques and reducing the role of state employers, numerous tendencies emerged in architecture which were raised from developing society of Turkey and each one in an style was seeking to combine Turkish traditional architecture with update architecture flows in western method and tried to introduce its method as a pattern for Turkey modern architecture in new world.

While following western known methods can be seen as a whole or a small detail in all this emerging tendencies, the method of referring to traditional architecture in these tendencies is significantly different. While some tendencies such as modern monumental architecture and modern brutal referred to the traditional architecture only in the field of form and aesthetic principles, in historicism tendencies referring traditional architecture occur deeper and in all three categories of form, function and meaning. General estimation of mentioned tendencies in 1960 and 1970 shows combination of traditional architecture with western architecture in overarching theme.
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INVESTIGATING OF EFFECTIVE PARAMETERS ON STRESS BEHAVIOR OF PRESSURE DEEP TWIN TUNNELS UNDER PRESSURE

Mehdi Panji
Department of civil engineering, Zanjan Branch, Islamic Azad University, Zanjan, Iran
mehdipanji@iauz.ac.ir

Pouya Kavandi
Department of civil engineering, Zanjan Branch, Islamic Azad university*, Zanjan, Iran
Pouya.kavandi@yahoo.com

ABSTRACT
The twin tunnels under the pressure have been analyzed in this study. Full-plane boundary element method (BEM) has been used for modeling. Focus of meshing on the boundary of twin tunnels distinguishes distinct features of the mentioned method with other numerical methods. In this regard, in addition to providing generalities of elastostatic formulation of the method and the required verification, the numerical study of the two tunnel has been done on stress and displacement components. The results showed that if the distance between two tunnel was more than 30R (R radius of tunnel), the vertical stress on the wall of one of the twin tunnels was converged towards an alone tunnel.

Keywords: BEM, deep twin tunnels, stress behaviors, effective radius.

INTRODUCTION
Today tunnel construction is very important. The presence of conditions such as high traffic volume has increased the use of parallel tunnels. Digging two tunnels next to each other with less than a distance makes them influence on each other, and endangers the stability of tunnels. When the two tunnels are dug next to each other, they will interact with each other due to vicinity, and cause deformations. Thus, it is necessary to examine the effective of the second tunnel on the first tunnel. The increasing development of computer science and computer use for analysis due to the ease and high speed has created numerical methods in engineering. BEM and finite element method (FEM) can be mentioned one of the numerical methods. Several laboratory and numerical studies have been done on the effect of the two tunnels on each other. A study was done by Kim et al [1] based on laboratory studies in 1996. He concluded that the effect of tunnels on each other in two parallel tunnels leads to tunnel crown move downward. Liu et al [2] carried out three-dimensional analysis on parallel tunnels. Chen et al [3] has also studied the distance pillar on parallel tunnel's behavior in 2009. Following loganathan & poulos [4] have offered analytical responses to determine the displacement of soft ground due to digging tunnel. A study conducted by Gioda and locatelli [5] in 1999 on the effect of digging tunnel in sandy land with the help of field measurements. In 2003, displacement ground for an environment with two tunnels was investigated using centrifuge test [6]. For tunnels modeling in various geometric states, material properties were performed using FEM by Koutasbeleulis & giriffith [7]. Lee and Rowe [8] investigated around the tunnel in clay soils using FEM deformation.

Beginning of BEM formation is nearly four decades. However, significant progresses have happened in the development of boundary element method. Discrete process of the boundary was used for the first time by Fredholm [9] in 1903 for potential flow equations. Since 1980 BEM was used to solve the soil problems, so that some researchers investigated discrete method of boundary in unbounded space [10 and 11]. In 2011, Duenser et al[12] simulated the underground structures using boundary element method, and analyzed their behavior. Also in 2006 so far Panji et al [13,14,15 and 16] have studied basic solutions of the full & half page using numerical method, and have utilized it to analyze...
foundation and tunnel. The aim of the research is to examine the most minimum distance between two
tunnels that do not effective on each other and is a state similar to absence of the second hole.

FULL-PLANE BEM

One of the most important features of BEM modeling of semi-infinite environments is without
considering approximation. In numerical methods such as FEM to model the infinite and semi-infinite
environments, it is required to analyze the scope with regarding an approximation from the
environment. This will reduce the accuracy of these methods. Also in the case of extensive
environment, the volume of calculations is increased, and finally the results are achieved slowly.

In boundary element method only with discrete boundary loading in infinite and semi-infinite
environments, the whole environment is participated in the analysis, that in addition to higher speed it
will have also higher accuracy. Tunnels in infinite space, loading on the surface of soil, wide strip
surface or deep foundations with considering soil-structure interaction effect can be mentioned of a
variety of infinite and semi-infinite environments.

FORMULATION OF BOUNDARY ELEMENTS IN FULL PLANE

By applying the weighted residuals' integral on equation of Navier elastostatic balance regardless of
volume forces, we will have [17].

\[ \int_{\Omega} \Omega_{k,j} u_k^* d\Omega = 0 \]  

(1)

So that in the above equation, \( u_k^* \) is weight function in weighted residuals or full-space Kelvin
fundamental solution, \( \Omega \) represents the problem, and \( \sigma_{k,j} \) is the equilibrium equation according to
stress components. Solving the fundamental displacement in two-dimensional elasticity utilizing
Navier equation and Galerkin method is obtained as follows:

\[ u_k^* = \frac{1}{8\pi\mu(1-\nu)} \left[ (3-4\nu)\ln \frac{1}{r} \delta_{ik} + \gamma \right] \]  

(2)

\( u_k^* \) is full space displacement fundamental solution along \( 1 \) under a single force along \( r.k = 1 \), \( l \), \( l \), \( l \), \( l \).

\( r \) is distance of source point to resiver point (boundary or internal), \( r1 \) is derivative of \( r \) vector
compared to along \( l \), \( \delta \) is Kronecker delta, and \( \nu, \mu \) represent the shear modulus and Poisson's
coefficient, respectively. Twice part-by-part integration of equation (1), the Green relation is obtained
as follows:

\[ \int_{\Omega} \sigma_{k,j} u_k^* d\Omega = -\int_{\Gamma} p_k u_k^* d\Gamma + \int_{\Gamma} u_k p_k^* d\Gamma \]  

(3)

So that \( p_k \) and \( u_k \) represent the values of traction and boundary displacement of boundry. \( p_k^* \) is
fundamental solution of full space traction and \( \Gamma \) specifies boundary. Using Dirac delta function (one
of the Boundary solution methods) boundary integral equation (BIE) is offered after the removal of
sentences over the domain as follows:

\[ c_{i,k}^j u_i^j + \int_{\Gamma} p_{i,k}^* u_k^* d\Gamma = \int_{\Gamma} u_{i,k}^* d\Gamma \]  

(4)

In the above equation \( c_{i,k}^j = 1 - (\theta_i/2\pi) \) and \( \theta_i \) are placement angle of boundary node of \( i \) (angle of
boundary refraction). Fundamental solution of traction components of \( p_{i,k}^* \) is achieved as follows:

\[ p_{i,k}^* = -\frac{1}{4\pi(1-\nu)r} \left[ \frac{\partial}{\partial r} \left( (1-2\nu)\delta_{i,k} + 2\gamma \right) \right] \]  

(5)
In this relation, \( n_j \) is jth-component of normal vector perpendicular to the boundary of \( \Gamma \) and \( \partial r / \partial n \) is derivative of position vector of \( r \) compared to the normal vector. In the used of fundamental solutions of \( u^*_i k \) and \( p^*_i k \), as well as BIM of 4, boundary unknowns can be obtained for each boundary node of i. It should be noted that stress fundamental solutions to determine the stress at each internal point defined in the problem can be achieved using equilibrium equation and fundamental solutions of full space displacement as follows:

\[
\sigma_{ij} = \int_{\Gamma} D^*_{kij} p_k d\Gamma - \int_{\Gamma} S^*_{kij} u_k d\Gamma
\]  

(6)

\[
D^*_{kij} = \frac{1}{r} \left\{ \frac{(1 - 2v)\{\delta_{ki}r_{i,l} + \delta_{k}\delta_{il} - \delta_{ij}r_{ij}\}}{2r\delta_{ij}r_{ij}} \right\} \frac{1}{4\pi(1-v)r}
\]  

(7)

\[
S^*_{kij} = \frac{2\mu}{r^2} \left\{ \frac{2}{\partial n} \left[ (1 - 2v)\delta_{ij}r_{k} \right] + 2v\left( n_{i}r_{j}r_{ik} + n_{l}r_{l}r_{ik} \right) + (1 - 2v)\left( 2n_{k}r_{l}r_{i,j} + n_{j}\delta_{ik} + n_{l}\delta_{jk} \right) - (1 - 4v)n_{k}\delta_{ij} \right\} \frac{1}{4\pi(1-v)}
\]  

(8)

In the above equations \( D^*_{kij} \) and \( S^*_{kij} \) are fundamental solutions of internal stress and \( \delta_{ij} \) is the stress tensor.

**NUMERICAL MODELING**

First, a software was prepared based on full-plane BEM which was presented in the above. This software is able to analyze and examine the subsurface tunnels in a static state. In the Figure 1, a numerical study including geometric parameters and material properties was shown. Also, the discretized boundaries can be seen in this figure.
ASSUMPTIONS

The assumptions of present study are presented as follows:

1. Radius of the tunnel in this study has been assumed 3m.

2. Poisson’s ratio has been considered 0.1.

3. Quadratic element has been used for discrediting the tunnel boundary.

4. Pressure value has been assumed 100 MPa.

VERIFICATION

In this state, first a tunnel has been investigated under the pressure of 100 MPa in a static state Figure 2. Then, by creating a second tunnel parallel to the first tunnel, stress disorganization and stress change can be seen around the first tunnel. In this study, it has been tried to make zero the effective of second tunnel on the first one by increasing distance. According to the results obtained from this program that have been shown in Figure 2, it can be seen that the effective of chart with distance more than 30R has become zero.
VERIFICATION EXAMINATION
Today authenticity of a subject in engineering is done in two ways. The first method is examination of the current method with previous researchers' studies that in addition it should not violated them, should have more accuracy than them. The later method mentions an engineering reason to prove the subject. According to Figure 4, it can be seen that increasing the distance between the two tunnels from other reduces the effective of the second tunnel on first tunnel. This is a logical reason and confirms the authenticity of the software.

CONCLUSION
According to conducted analysis using the prepared algorithm, the importance of the presence of two parallel tunnels on stress responses and their displacement was analyzed. The results showed that the effective radius on each other is removed and the responses of each of the tunnels converge towards
the single hole tunnel by increasing distance of one of the tunnels to the other tunnel as much as 30 times the tunnel radius.

REFERENCES
THE RELATIONSHIP BETWEEN PERSONAL CHARACTER TYPES WITH LEADERSHIP STYLE
(CASE STUDY: MANAGERS OF STATE ORGANIZATIONS IN BUSHEHR PROVINCE)

Ehsan Razmi Nia
MSc. Public Administration, Shahed University, Tehran, Iran
erazminia@gmail.com

Abdol Reza Beygi Nia
Assistant Prof., Faculty of Humanities, Shahed University, Tehran, Iran
beiginia@shahed.ac.ir

ABSTRACT
This study aimed to identify "the relationship between Personal Character types with leadership style". Based on the formula limited sampling (Cochran), the sample comprised 100 people from the population of the study (including all public organizations managers of Bushehr province) were selected. The data related to variables of types character and leadership styles were measured with questionnaires measuring personality and leadership style. Of expert opinions (professors of management, pedagogy and psychology) to ensure the validity of both questionnaires and thus confirmed the validity and Cronbach's alpha coefficient was calculated by the pilot. After distributing and collecting the questionnaires, the Pearson correlation coefficient test for the presence or absence of a relationship between variables was performed. Results obtained of data analysis using SPSS software showed a significant relationship between variables. MANOVA test results also show that there is a significant relationship between demographic variables (management experience and work experience) with the leadership styles of managers. Also results of this study showed a significant relationship between the two variables with leadership style.

Keywords: Personality, Type of Personality, Leadership, Leadership Styles

INTRODUCTION
The word leadership defined as the ability to influence others to achieve the desired objectives. [1: p.592] Leaders to exert their influence on others and running, choose styles to suit personality. Leaders can be tailored to your actual and potential use of styles. Some of these styles can be a tendency to task (task-oriented) and tendency to mutual relations between individuals (relationship-oriented). It should also be noted that several factors affect leadership style by leaders. Including the organizational climate, followers and staff behavior and personality type also pointed leaders and employees. Nowadays organizations in the issue of selection of leaders and managers at all levels, low levels of supervision to the highest executive levels, with great emphasis. Industrial and Organizational Psychology realized that the success or failure of any organization depends largely on the quality of their leaders.

The main difference between successful and unsuccessful organizations often defined in terms of leadership. Half of the newly established Institute of Commerce, in the first two years and only one third of them failed to turn up to five years [2: p.12]. Effective leaders are the most important and the rarest the resources of each organization. The failure of any organization in achieving optimum productivity can be attributed in part related to the management and inefficient leadership of the organization [3: p.3]. One of the important aspects of recruitment, compliance psychological characteristics working the job. In today's world, many factors are involved in determining leadership style and one of the factors that are discussed
in this study. The present study was conducted to answer the question "What is the relationship between personality character types with leadership style?"

In other words, taking into account managers' personality type, they have a duty to exert leadership styles. Research conducted during more than 50 years, has experienced sometimes conflicting results. The researchers found that successful leaders gradually, in a certain type of successful careers and others have been unsuccessful. Psychologists also concluded that leadership effectiveness is possible not only to "personal characteristics of leaders" but also to "the nature of a situation that leaders and subordinates in that position and it would also interact with each other largely on" the needs and characteristics of their followers [4: p.2]. Personality words in European languages from the Latin word "persona" mask is taken to mean that players in the past for its role in the drama of the occasion, to face them [5: p. 89]. One of the characteristics of this type of mask are constants throughout [6: p .235]. The personality shows a combination of psychological characteristics (e.g., calm, aggressive, ambitious, loyal, social, or the like). Macshin and Vanglino know character relatively stable patterns of behavior and consistent internal states tend to show a person's behavior [7: p .698].

This study and similar studies as a link and Management Sciences and Psychology is considered the interface (Interdisciplinary Studies) which can be used as a source for the study of relationships and the effects of the sciences or other science. Such research through communication between different sciences in various fields, create new results that can be helpful to evaluate the combination of various sciences. Purposeful relationship with the NEO Five-Factor personality traits of leadership styles BISPECTRAL (task-oriented and behavior-oriented) were measured.

RESEARCH HYPOTHESES
In this study, a main hypothesis five sub-hypothesis was proposed.

THE MAIN HYPOTHESIS
Personality’s types (Nerve oriented, outward-oriented and flexible, perfectionist and compatible) are related with leadership styles.

SUB HYPOTHESES
1. There is relationship between nerve-oriented personality type and task-oriented relationship-oriented leadership style.

2. There is relationship between type of eccentric personality with relationship-oriented and task-oriented leadership style.

3. There is relationship between personality type flexible circuit and task-oriented leadership style.

4. There is relationship between perfectionist personality type and task-oriented relationship-oriented leadership style.

5. There is relationship between personality type compatible with the circuit and task-oriented leadership style.

THEORETICAL FOUNDATIONS AND RESEARCH HISTORY
Theoretical foundations related to research variables (types of personality and leadership styles) as well as background research (research to date outside or inside the country about how the relationship between these variables and access to them is possible.) As paragraphs next, compile, and based on the theoretical principles, conceptual model is also designed and drawn.

PERSONALITY TYPE
Psychologists have studied characters from different perspectives. Some traits: Gordon (1947); Alport (1949), Kattel and Goldberg (1981); (Freud, 1923), this concept from the perspective of psychoanalysis; it's a group of life: Kretchmer (1920) and Sheldon (1915); some also from the human perspective: Maslow (1943) and Rogers (1954) and some categories of socially character (Ericsson, 1957) have been investigated [8: p.76]. Every human being is a combination of three attributes, personal and cultural unique in itself and the overall collection; and the attention and psychological personality. The whole concept, and for this reason its complexity has caused personality in many ways defined the term [7: p .698].

Personality in the overall concept include the following:

A) Rules for unique interactions between people and their common rules;

B) Stable and unchanging aspect of human action and unstable aspects and its variability;

C) Cognitive (thinking processes), aspects of affective (emotional) and behavioral aspects.

This matter will require that a comprehensive definition that is agreed by all scholars in the field of personality psychology. Waren dictionary, the following character reads: "character to aspects of intellectual, emotional, motivational and physiological. In other words, the ingredients that set the human personality is said to keep standing.

Alport researchers in the field of personality organized systems of body and mind as mental and behavioral characteristics of a person's character [9: Ss.10-9]. Sheldon also raised dynamic character in its definition, and it says: "organizational structure dynamic aspects of cognitive, emotional and motivational and personality of a person's physical say" [5: p. 92]. Kattell figure out the categories of content and practical character in its definition as such, which it defines: "personality is what allows us to predict what will that person in a position of what practical means he will be the result. Hilgard defined all personality and mental faculties in a kind of return to their definition. He defines his personality: "personality certain patterns of behavior and ways of thinking that way adjustment, the environment determines a person [10: p. 1]. Norman in nearly three decades ago, scores obtained from factor analysis gave personality tests to individuals by peers and in 1963 five of extraversion and agreeableness, conscientiousness, emotional stability and culture with a focus on proposed constitutional [11: p. 0.45].

Currently, the score is derived as a result of the efforts of Norman (1963), McGarry and Costa five-factor model in which low operating weight due to factors of culture (presented by the Normans) and an operating weight of the scores of creativity, independence and his title instead of the culture of openness and research has shown that this model to assess the extent and form of nature. is enough. McGarry and Costa importance of the five-factor model personality in the development of psychological concepts through observation and self-report questionnaires and reports those factors and see the highlights of personality. Similar results were obtained from various sources also claim that these factors are important dimensions and through them we can recognize individual differences in adult personality, the action brought strong support, (McGarry and Costa) and this model not only for adults but also for children 7 to 17 years old have been useful [11: p. 54].

Five factors also affect the possible adaptation measure, as well as the basis for creating unity between the individual's veins in different patterns [12: p. 565].

Nervous: most effective measures realm of mutual compatibility or incompatibility of emotional stability or Neuroticism and nervous is better. Clinical experts from a variety of emotional disorders such as social phobia, depression and hostility recognize in people [13: p. 76].
Extraversion: extroverts are communitarian, but social ability is just one of the traits of extraversion. In addition, like people, prefer large groups and conventions, with assertiveness, active and talkative and extrovert traits as well [13: p. 83].

Flexibility: Flexibility in the experience much less than nervous (N), extraversion (E) is known. Elements of flexibility because they enable beautiful feeling-friendly, according to their inner feelings, variety-seeking, intellectual curiosity and independence of judgment, often have played a role in theories and personality assessments, but to each their incorporation into a wide scope and form factor of personality rarely been discussed [13: p. 33].

Perfectionism: the developmental period most people learn how to deal with dreams and an inability to avoid temptation generally a sign of increased momentum and signs of perfectionism among adults. Self-control can also power the concept very active planning, organizing and carrying out the duties entrusted to perform optimally as well. Individual differences in this case, is the basis of conscience [11: p. 44].

Agreeableness: as extraversion, agreeableness also looked at first, next is the tendency of the individual. One compatible primarily altruism. He is keen to help and sympathy towards others and believe that others in turn. In contrast, the adaptive, militant self-centered and skeptics competitive to others and collaborating. People are very willing to be adapted as desired trait is socially and psychologically healthier state [11: p. 45].

LEADERSHIP STYLE
If there is one factor that funds differentiate between successful and unsuccessful organizations to ascertain, without doubt, it is effective dynamic leadership [15: p. 419]. Perhaps no issue in management as "leaders" of the study, criticism and review, there is still ambiguity perhaps no matter the size, distinct and opposing views have not been met. In the fields of organizational, leadership perhaps more than any other category were investigated and in the fields of management, more than any other issue, is analyzed [16: p. 985]. In terms of Moorhead and Griffin, there are two main reasons for the study of leadership topics:

A) Leadership is one of the important practical measures.

B) Some of the variables that impact on leadership effectiveness must be identified and evaluated separately.

According to the experts, in some cases significantly impact the overall leader of the organization. In other situations leader of determining the difference between a great position or fail outright. Some leaders may have an important role in an organization, but other organizations are ineffective. Regardless of the type of organization that some leaders always are successful, this case makes it clear that leadership is something that still needs to be done about it comprehensive studies [17: p. 64]. Robbins believes in the field of organizational behavior, the term "leadership" including wording that there is little consensus about its definition and that the leadership is defined in terms of the number of those who seek to provide a definition of the meet. He leadership "as the ability to exert influence over a group, in order to meet the target", according to this definition states that the widespread or far-reaching in that it can incorporate all views [1: p. 592].

Leadership is a process through which the management seeks to motivate and communicate effectively perform other duties to facilitate the achievement of organizational goals and staff to fulfill their obligations to encourage willingly [18: p. 141]. Effects of other authors reveal that most of them agree that the leader of "the process of influencing the activities of an individual or a group, in a certain position in their effort to achieve specific objectives.” It seems that the process of this definition subordinate
leaders of leaders, followers and other variables situation that it can use this relationship \( L = F(l, f, and s) \) provided by Fiedler [15: p. 420].

Schriesheim et al (2005) defined leadership as social influence process where the leader sought the voluntary participation of employees in pursuit of organizational objectives [19: p. 375]. People tend to managers and leaders in a sense that words and their synonyms. Leaders and managers are different. With leadership as one of the four Task Manager (planning, organizing, leading and controlling) Management broader concept of leadership. Only one of the leaders of management tasks and their positions without a manager can be considered a true leader [18: p. 141].

Noorshahi (2006) quotes about leadership style by Fiedler (1993) brought is thus: "The leadership styles of behavior and characteristics of a person that does not depend on the situation and focus on what leaders do, and not to do "(given his state university studies Ohayo and behavioral approach in Leadership Studies). He quoted from Davis and New Storm (1998) says: "leader leadership style organizational behavior returns, in fact, the ways in which that power to work is to help any leader, creates a kind of leadership style.” Second that "Leadership is about action, leadership style as perceived by their followers and style philosophy, skills and attitude reflects leadership in action". Thus leadership styles to choose leaders among the behaviors that applies by leadership. In addition to the concept of style, has long been commenting on skills and competencies that a leader should have been given attention and importance [20: p. 55].

The overall project leader acts in a way that is picked up by staff, is the leadership style or manner. Leadership style reflects the way of thinking, worldview and personality leaders [15: p. 427]. Schirmer Horn (1996) believes that in the late 1950s and early 1960s led research focused on the study of behavior patterns effectiveness. Two approaches to research this rule are: One review of the behavior of workers, task-oriented, interest in production or other regulated and the behavior of people-oriented, interested in people, or based on human relationships. However, to distinguish these two types of behavior have been used different words, but the behavioral characteristics of these two dimensions is quite clear. Work-oriented manager will behave in this way:

A) Job definition and planning how to do it;
B) The specific responsibilities of each person to do it;
C) Work indicators is clearly defined;
D) Undertake and complete the task should be emphasized;
E) Tracks the performance results.

While people-oriented managers of such acts:
A) Warm and supportive people deal with it;
B) Establish social connections is more likely;
C) To respect the feelings of others;
D) Show sensitivity towards the needs of employees;
E) The employee trusts.

When people visit this behavior with different combinations are used, their style is determined [19: p. 381].
University of Michigan Studies program of research on the behavior of university leaders, which was conducted under the direction of Rines Likert. The purpose of this study was to achieve a leadership behaviors that resulted in the performance and effectiveness of the group. In this study, two types of leadership behavior were identified were:

A) work-oriented behavior;

B) Employee-oriented behavior.

Employee-oriented leaders who were on the relationships between people was emphasized. According subordinates had their personal needs and admit that members of the organization, personal differences with each other. Production-oriented leaders who had the technical aspects were considered. All their attention was paid to employees and members of the group were considered as a tool for this purpose. The results of the research were the University of Michigan leaders confirmed that staff were oriented in their behavior. These leaders would produce satisfaction and increase job satisfaction, but production-oriented leaders were causing the yield and reduce production and job satisfaction of workers [1: p .345].

RESEARCH EMPIRICAL HISTORY
By examining the available resources both at home and abroad for studies, research has not found the same title. But at least one of the variables in the research that examined it briefly, in Table 1 are shown.

<table>
<thead>
<tr>
<th>Titles, research results and Researchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oshagbemi (2003) study, &quot;Investigating the relationship between leadership style with age&quot;, managers included in three age categories: 26-35, 46-55 and 56 years and more; divided. The results show that: older leaders recognize the challenges and initiatives and longer-term perspective in managing their people and systems and on the other hand, younger people were resistance to change, and competitive, result-oriented and had high energy. Young and old managers did not show any difference in leadership style command. Older managers took advantage of participatory leadership style. On empowering leadership style, two groups of managers had imposed a similar leadership styles [21: pp. 451-435].</td>
</tr>
</tbody>
</table>
| Anderson (2006) Research, entitled "The relationship between leadership and organizational effectiveness character" who was actually a retest of past research results are as follows:

To advance the goals of military organizations for people with type A personality is needed to B, that's why the study was conducted in more than 32 military bases, Showed that people with type A personality in these bases are more effective, as well as in knowledge-based organizations that work on them is knowledge and knowledge management, managers personality B must be used in the role of leader. [22: pp. 1091-1078] |
| Ebrahimi (1999) Research, as "The effect of leadership style on employee efficiency" to the conclusion that the efficiency of the organization studied leadership style is effective. It means that the managers of authoritative leadership style-exploitative and authoritarian style-intentioned advice and participative styles to change their style suits the style, staff efficiency increases [23]. |
| Obtained results of the Doroudian et al (2012) research, as "The relationship between personality traits, interpersonal skills and leadership style entrepreneurial business performance sport in Tehran", Showed that personality traits, skills, identify opportunities, and transformational |
leadership style entrepreneurs with business performance sports there is a significant relationship [24: Ss.124-107].

The results of Shokri (2006) study, entitled "Assessment of relationship managers' leadership style and personality type", showed that managers personality type "A" are task oriented and managers personality type "B" are Humans oriented [25].

RESEARCH CONCEPTUAL MODEL

Based and theoretical, conceptual model research in the form of (1) was drawn.

<table>
<thead>
<tr>
<th>Personality Type</th>
<th>Leadership style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nervous -Oriented</td>
<td>Relationship-oriented</td>
</tr>
<tr>
<td>Extrovert</td>
<td>Task-oriented</td>
</tr>
<tr>
<td>Flexible</td>
<td></td>
</tr>
<tr>
<td>Perfectionist</td>
<td></td>
</tr>
<tr>
<td>Compatible</td>
<td></td>
</tr>
</tbody>
</table>

dependent variables independent variables

RESEARCH

Statistical society includes all the desired elements, at least, has been a characteristic trait. Sample group, a small set of statistical population including some members of the population are selected. Thus sample group is a subset of the study population that the researcher can generalize results to the whole of society [26: p. 295]. Statistical society included all managers and assistants governmental organizations of Bushehr province that according to preliminary estimates at the time of conducting the survey, about 120 people have been. Research sample using the formula of the finite population sampling (Cochran method), equation (5-1) is calculated. [27, p. 71]

\[
n = \frac{NZ^2_{\alpha/2}pq}{(N-1) + NZ^2_{\alpha/2}pq}
\]

Using sampling formula, in the limited sample size, statistical sample size of our study population, were estimated at 92 people. Collect data needed for this study, three libraries, refer to the documents, and fields is done. Libraries procedure involves the study of texts in Persian and non-Persian (English) related to the literature include personality type and style of leadership. Information on organizations and statistical society studied the relevant documents to the governorate, is referred. In the field, using two
types of questionnaires and distribute them among the statistical sample, the required data for the study were collected.

Overall, in this study, the following methods were used to collect data:

A) The study of books, articles and dissertations have been written in conjunction with variables.

B) The use of domestic and foreign articles written on the subject associated with the study.

C) Use of questionnaires as the primary means of data collection.

However, the main instrument used in this study was a questionnaire. Test is a common means of research and direct way to obtain research data is considered. This management tool is an effective way of collecting data in the form of structured and considered manageable [28: p. 79].

Questionnaire is written set of questions about the variables set is a research problem [29: p. 25]. Type questionnaire (types) measures the character Neo five character types, including 60 in 1992, has been questioned by Costa and McCrae, is designed. Norman in 1993. The questionnaire used in the study. Altafi Shirmard in 2009 from the questionnaire to do his research as "my strength and personality evaluation and comparison of drug-dependent and non-dependent" is used. Also Rines Likert questionnaire for assessing leadership style governmental organizations of Bushehr, was used. Of this questionnaire for assessing leadership style was different studies in which the subject is being used and while over time the structure has been changed. Version used in this study is the version by Moghimi (2007) is localized and used.

Ensure the appearance or formal validity by experts, is one way to verify validity. In terms of the questionnaire used in this study, has already been used in several studies and experts were also verified, (8 faculty members witnessed the Faculty of Social Sciences) It can be argued that validity is necessary. Reliability of the questionnaire using alpha (α) and its reliability Cronbach's proved its reliability in Table 2, is shown.

<table>
<thead>
<tr>
<th>reliability of survey questionnaires based on Cronbach alpha</th>
<th>Number of questions</th>
<th>questionnaires</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.85</td>
<td>60</td>
<td>Personality types</td>
</tr>
<tr>
<td>0.92</td>
<td>35</td>
<td>method of leadership</td>
</tr>
</tbody>
</table>

**DATA ANALYSIS AND RESEARCH FINDINGS**

Data obtained from the statistical sample into two descriptive and inferential methods, were studied and the results are as the following paragraphs.

**DESCRIPTIVE FINDINGS**

Status Indicators demographic research sample and descriptions of the variables in the tables (3) and (4) is displayed.
Table 3. Demographic situation research statistical sample

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woman</td>
<td>18</td>
<td>19.6%</td>
</tr>
<tr>
<td>Men</td>
<td>74</td>
<td>80.4%</td>
</tr>
<tr>
<td>Single</td>
<td>19</td>
<td>20.7%</td>
</tr>
<tr>
<td>Married</td>
<td>73</td>
<td>79.3%</td>
</tr>
<tr>
<td>Age 41-50 years old</td>
<td>41</td>
<td>44.6%</td>
</tr>
<tr>
<td>Education BA</td>
<td>42</td>
<td>45.7%</td>
</tr>
<tr>
<td>Work experience 11-15 years old</td>
<td>28</td>
<td>30.4%</td>
</tr>
<tr>
<td>Management history 4-6 years old</td>
<td>46</td>
<td>50%</td>
</tr>
<tr>
<td>Manager</td>
<td>28</td>
<td>30.4%</td>
</tr>
<tr>
<td>Assistant</td>
<td>64</td>
<td>69.6%</td>
</tr>
</tbody>
</table>

Table 4. Frequency distribution, mean and standard deviation of components research

<table>
<thead>
<tr>
<th>Standard deviance</th>
<th>Average</th>
<th>Number</th>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.4378</td>
<td>18.5</td>
<td>92</td>
<td>Nervous oriented personality type</td>
</tr>
<tr>
<td>0.5390</td>
<td>33.32</td>
<td>92</td>
<td>Extroverted personality type</td>
</tr>
<tr>
<td>0.3898</td>
<td>29.92</td>
<td>92</td>
<td>Flexible personality type</td>
</tr>
<tr>
<td>0.4856</td>
<td>35.07</td>
<td>92</td>
<td>Perfectionist personality type</td>
</tr>
<tr>
<td>0.5162</td>
<td>33.3</td>
<td>92</td>
<td>Compatible personality type</td>
</tr>
<tr>
<td>0.5116</td>
<td>29.02</td>
<td>92</td>
<td>Relationship-oriented leadership style</td>
</tr>
<tr>
<td>0.5109</td>
<td>32.92</td>
<td>92</td>
<td>Task-oriented leadership style</td>
</tr>
</tbody>
</table>

Among personality types, perfectionist personality has the highest average (35.07) and nervous personality has the lowest average (18.5) and task-oriented leadership style has on average more (32.92) and relationship-oriented leadership style also has a lower average (29.2).

INFERENTIAL ANALYSIS
In order to ensure the normal state of research variables or not, the "Kolmogorov-Smirnov" test, was conducted. Results obtained of these tests, which represents normality of variables and their components is shown in Table 5.
Table 5. The results related to normality test research components

<table>
<thead>
<tr>
<th>Test results</th>
<th>Sig</th>
<th>Statistic</th>
<th>Freedom degree</th>
<th>Number</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>0.200</td>
<td>0.15</td>
<td>92</td>
<td>92</td>
<td>Nervous oriented personality type</td>
</tr>
<tr>
<td>Normal</td>
<td>0.180</td>
<td>0.143</td>
<td>92</td>
<td>92</td>
<td>Extroverted personality type</td>
</tr>
<tr>
<td>Normal</td>
<td>0.200</td>
<td>0.160</td>
<td>92</td>
<td>92</td>
<td>Flexible personality type</td>
</tr>
<tr>
<td>Normal</td>
<td>0.200</td>
<td>0.107</td>
<td>92</td>
<td>92</td>
<td>Perfectionist personality type</td>
</tr>
<tr>
<td>Normal</td>
<td>0.170</td>
<td>0.229</td>
<td>92</td>
<td>92</td>
<td>Compatible personality type</td>
</tr>
<tr>
<td>Normal</td>
<td>0.200</td>
<td>0.131</td>
<td>92</td>
<td>92</td>
<td>Relationship-oriented leadership style</td>
</tr>
<tr>
<td>Normal</td>
<td>0.200</td>
<td>0.206</td>
<td>92</td>
<td>92</td>
<td>Task-oriented leadership style</td>
</tr>
</tbody>
</table>

If the research variables and parameters are normal (Kolmogorov-Smirnov test) then can be used Pearson correlation test. Results obtained of the Pearson test in Table 6, is shown.

Table 6. Results based on testing hypotheses, Pearson correlation test

<table>
<thead>
<tr>
<th>Result</th>
<th>Correlation coefficient</th>
<th>Description</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved</td>
<td>0.741</td>
<td>There is relationship between nervous personality types, with task-oriented</td>
<td>First sub</td>
</tr>
<tr>
<td></td>
<td></td>
<td>leadership style.</td>
<td></td>
</tr>
<tr>
<td>Rejected</td>
<td>0.269</td>
<td>There is relationship between nervous personality types and relationship-</td>
<td>Second sub</td>
</tr>
<tr>
<td></td>
<td></td>
<td>oriented leadership style.</td>
<td></td>
</tr>
<tr>
<td>Approved</td>
<td>0.716</td>
<td>There is relationship between extroverted personality types, with task-</td>
<td>Third sub</td>
</tr>
<tr>
<td></td>
<td></td>
<td>oriented leadership style.</td>
<td></td>
</tr>
<tr>
<td>Approved</td>
<td>0.645</td>
<td>There is relationship between extroverted personality types and task-</td>
<td>Fourth sub</td>
</tr>
<tr>
<td></td>
<td></td>
<td>oriented leadership style.</td>
<td></td>
</tr>
<tr>
<td>Rejected</td>
<td>0.222</td>
<td>There is relationship between flexible personality types, task-oriented</td>
<td>Fifth sub</td>
</tr>
<tr>
<td></td>
<td></td>
<td>leadership style.</td>
<td></td>
</tr>
<tr>
<td>Approved</td>
<td>0.905</td>
<td>There is relationship between flexible personality type relationship-</td>
<td>Sixth sub</td>
</tr>
<tr>
<td></td>
<td></td>
<td>oriented leadership styles.</td>
<td></td>
</tr>
<tr>
<td>Approved</td>
<td>0.831</td>
<td>There is relationship between perfectionist personality types with task-</td>
<td>Seventh sub</td>
</tr>
<tr>
<td></td>
<td></td>
<td>oriented leadership style.</td>
<td></td>
</tr>
<tr>
<td>Rejected</td>
<td>0.105</td>
<td>There is relationship between perfectionist personality type relationship-</td>
<td>Eighth sub</td>
</tr>
<tr>
<td></td>
<td></td>
<td>oriented leadership styles.</td>
<td></td>
</tr>
<tr>
<td>Approved</td>
<td>0.684</td>
<td>There is relationship between personality types compatible with task-</td>
<td>Ninth sub</td>
</tr>
<tr>
<td></td>
<td></td>
<td>oriented leadership style.</td>
<td></td>
</tr>
</tbody>
</table>
Pearson correlation test (Table 6) confirmed the majority of hypotheses (with the exception of sub-hypothesis II, V and VIII) and is also the main hypothesis.

**MANOVA TEST (MULTI-WAY ANALYSIS OF VARIANCE)**

MANOVA test showed that demographic variables "work experience" as a condition variable "leadership styles" relationship and its implications. In other words, the test sig significant because the amount is less than 0.05, therefore indicates that the variable work experience, leadership style has a significant positive relationship and a choice of either style of leadership, work experience is affected by the variable. It can also be concluded that one of the factors that show the tendency of managers and deputies to each of leadership styles, the demographic variable "work experience" is. It also reviews the variable "management experience" can also be extended so that the demographic variables management experience has had an impact on leadership style.

In other words, in this case because a significant amount sig is less than 0.05, the aforementioned variable (record management), leadership style influences. In addition, the results can be argued that one of the factors that tend managers and deputies led to the selection of any of the styles, demographic variables "record management".

**CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS**

Based on results obtained of the investigation in the literature, so far as study management, so that the components of personality types (independent variable) and leadership styles (the dependent variable) is used is not found, but research in the field "type character" and "leadership style", and similar cases it is done to review its results will be discussed. Task-oriented leadership style in different situations, less effective and relationship-oriented leadership style in general, have been more effective. Manager’s types (type) character "A" task-oriented and managers types (type) character "B" are more human-oriented. As well as of gender, age and work experience in relation to directors' leadership style and personality type (type) have an interactive role.

Older and more experienced leaders recognize the challenges and initiatives and longer-term perspective in managing their people and systems and were it resists the other hand, younger employees, competitive, result-oriented and had high energy. Anderson (2006) to the study of leadership, personality and effectiveness is evaluated and the results are as followed next. To advance the goals of military organizations for people with any (type of) character "A" is needed to type (type) character "B". Also in the knowledge-based organizations that work on them is knowledge and knowledge management, managers type (type) character "B" is used in the role of leader.

Results obtained of each test research hypotheses indicate a significant positive relationship between personality type nervous, outward-oriented and task-oriented leadership style was a perfectionist. Also results indicate a positive and significant relationship between personality type extroverted, perfectionist, flexible and compatible with relationship-oriented leadership style was. On the other hand relationship between personality type nervous with relationship-oriented leadership style and personality type compatible and flexible task-oriented leadership style, was not met. MANOVA test results also indicate a significant positive relationship between demographic variables and work experience, management experience and leadership style. Based on results obtained of the test research hypotheses, suggestions are provided below:
A) Is recommended before making a decision on hiring as director and deputy director, through psychological tests, personality types that determine people. Organization space also deserves to be evaluated to determine the type of leadership style needed for the organization. All this is made possible time offer that type of personality (especially managers) utilizes specialized psychological tests be recognized.

B) In organizations businesses and situation organizational need to focus on results and achievement of early results is that people use their personality type "nervous" is

C) Of the "extroverted personalities" should be used more for organizations where organizations significantly to the "early results" require and while have to communicate with the outside world also have a lot to be able to use this relationship to achieve the desired results.

D) Persons with personality traits "extrovert", in organizations that "relationship-oriented leadership style" prevailed over them, the more they can be effective. In other words, most of the tasks of the organization that is based on group activities or the kind of job they need the courage and activity is high; can these people with these personality characteristics.

E) people with personality traits "flexible" that has an active imagination, attention to inner feelings, diversity, intellectual curiosity and independence in their judgment, in organizations that "thinking and relationship-oriented style" is governed, (such as knowledge-based organizations) can be relatively high efficiency.

F) People with personality traits "perfectionist" cannot be in government and public organizations and more view because the mission, objectives and structure of these organizations is based more on "task-oriented".

G) Managers who have consistent behavioral and personality characteristics, are the organizations that solely on "task-oriented leadership style" focus not employed, because such managers due to lack of fighting spirit and tenacity, cannot emphasize task-oriented.

H) The personality "compatible" type of personality who is very eager to help others, altruism and aggression and competitiveness is also lacking in spirit. People with this type of personality believe that all issues can be resolved by discussion. Such people are in government and public organizations will not enjoy of the expected performance, because in these organizations and similar work environments, adequate time for discussion. While people have different tastes in this type of organizations, as a result, these managers are forced to spend all their time discussing people and different tastes, and therefore performing its main duty will remain open.

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THE ROLE OF INFORMATION SOCIETY IN THE DEVELOPMENT OF FARHANGIAN UNIVERSITY

Amir Soltaninejad
PhD in Sociology, Invited lecturer of Farhangiyan University
amirsoltan59@gmail.com

Muhammad Ali Yaghoubi Poour
Bachelor of Educational Sciences, at Farhangian Nasir al-Din Tusi Kerman University

Ali Sadei
Faculty member of The Department of Human Science, Farhangiyan University, Tehran, Iran
alisadee81@yahoo.com

Majid Saadatzadeh
PhD in Sociology, Lecturer OF University of Applied Sciences

Masoumehossadat Mirzadi Gohari
M.A of Anthropology

ABSTRACT
In this study, we attempted to examine the role of information society in the development of Farhangian University. The research method is descriptive-survey. The population of this study, being 145 people - was consisted of experts, staff and faculty members of Farhangian University of Kerman - in the academic year of 2014-2015. Access was possible to all members of the community and a list of available people was made. Using census methods, 145 people were selected as samples of the study among the staff and faculty members of Farhangian University. A research made questionnaire, having an optimal reliability and validity ($\alpha$ = 0.88), was used in the study. Since the aim of this study was to evaluate the impact of the information society on the development of Farhangian University, a five-component scale was implemented; planning, organization, command, coordination and control. To test the hypotheses (rejection or acceptance) one-sample t test was used. The results indicated that experts, professors and staff of Farhangian University of Kerman believed that the role of the information society in the development of the university is at an average level in terms of planning and organizing; however, in terms of command, coordination and control, the role of the information society was lower than expected.

Keywords: information society, Farhangian University, planning, organization, command

INTRODUCTION
With a glance at the history of human civilization, we can realize that the most ancient records and documentation belonged to Sumerians who carved their massages on stones. The eighteenth century was a turning point in the history of documentation and an important era in Science, Technology and knowledge. The main focus of human attention in the industrial revolution, was on the technology. The connection of science, technology and the special needs to use the latest scientific achievements, created a new knowledge called Information Society (Ghaffari, 2003: 90).

Information society is the knowledge of information, features dominating the flow of information and the tools that prepare and maximize the access to information. The preparation includes a detailed scientific
and documentary breakdown of information, collecting, organizing, storing, retrieving, interpreting, spreading and using of it (Burchinal, 2001).

Indiscriminate and massive increase of information, from 1970 onwards, led to the complex data organization and recording. So the use and access to the information became more difficult, but the development of digital technologies, the production of supercomputers, their speed of information processing, as well as their high capacity solved the problems. Thus, science, computing, storage, retrieval of information and human knowledge united and information society was created. Then, gradually the information society was combined with the concept of communication; by visiting one of the many databases, users were able to access a vast amount of information within just a few seconds. Since the combination of technologies, strategies, information and communication with the issue of technology, another branch of human science or skill was emerged called information society and communication technology (Dawn, 2003). Information society is turned into a powerful force in social, economic and political changes of the world. Many countries and regions of the world are not able to succeed in the development without adhering to the era of information. The potential effects of the information society on countries having digital gaps (the gap between the countries having digital information and those not having this knowledge) is getting more serious (Darliag, 2007). The increased use of information and communication society, results in the rapid expansion of information, in other words, the approaches in the development of the information society, has caused the universities to use the information society (Winglin, 2004).

Generally it can be argued that information society is created to generate effective distant communication, access to information and prevent accumulation and monopolization of information; nowadays the exchange of information in the world is done within a second. Therefore, to prevent backwardness, the educational and training managers need to use the information society, in order to develop and progress (Golmohammadi, 2002: 90).

Currently, many of the efforts made in the field of information society in the public sector, is faced with failure; Because the generation of thought and creativity, creation of harmonious and novel changes require special capabilities in the area of training and information society. The use of guidelines for the employment of information society at Farhangian University needs planning, organization, command, coordination and control (Mertous, 2006).

The educational system requires the management of different educational systems in the area of information society developments; however, Farhangian University (as one of the educational systems) is faced with great responsibility in the issue of education, also formal and informal tasks are handled by this university. Thus, it is realized that this organization plays a key role in advancement of science, management and education. In this regard, the increase in the ability of the educational system and the development and progress of society is very important (Jackson, 2000). Researches show that the educational systems which use the information society in the process of learning and education are more successful. Officials and those involved in educational system who dominate the learning environment can benefit from the information society in curriculum designing and teaching methods (Moses, 2002). Given the objective of this research -the role of information society on the development of the Farhangian University- and emphasizing the impact of the information society on education systems, we realize that the use of this technology results in the training guides for the development of Farhangian University (whose goal is to provide excellent training services). Thus it is necessary to provide facilities for the use of information society, otherwise the survival of the organization will face serious threats.

METHOD
This research is a descriptive survey study and given that descriptive studies, consider attitudes and viewpoints, the researchers have used the assumptions of descriptive studies to survey the samples. In the
current study the survey method is used as the most appropriate design to examine the experts of Farhangian University.

THE POPULATION, SAMPLING
The population of this study, being 145 people- was consisted of experts, staff and faculty members of Farhangian University of Kerman -in the academic year of 2014-2015. Access was possible to all members of the community and a list of available people was made, so the population is finite. Using census methods, 145 people were selected as samples of the study among staff and faculty members of Farhangian University.

THE INSTRUMENTS OF THE STUDY
A research made questionnaire was used in the study to evaluate the impact of the information society on the development of Farhangian University of Kerman. The questionnaire consisted of 30 questions measured by the Likert scale (very high, high, medium, low and very low), and consists of 5 sub-scale; planning, organization, command, coordination and control. The validity was obtained by a pilot study of 30 samples (experts, staff and faculty members) and the use of Cronbach alpha 0.87; also in the final run the amount of Cronbach alpha was 0.88 which indicated the high validity of the study. Finally, the one sample t was used compare experimental and theoretical average (18 = µ).

Findings
In this section we have tested the questions and objectives study and offered the related tables obtained by t-test:

1. What is the role of information society in the development of Farhangian University?

Table1. The role of information society in the development of Farhangian University

<table>
<thead>
<tr>
<th>Theoretical mean</th>
<th>Experimental mean</th>
<th>t</th>
<th>Degree of freedom</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>17.80</td>
<td>01/2</td>
<td>144</td>
<td>0.037</td>
</tr>
</tbody>
</table>

According to the t, there is a significant difference α=0.05 between the experimental mean the theoretical mean. Since the experimental mean is lower than the theoretical mean, so, based on the samples, the role of information society on the development of Farhangian University was below the average.

2. What is the role of information society in the planning of Farhangian University?

Table2. The role of information society in the planning of Farhangian University

<table>
<thead>
<tr>
<th>Number</th>
<th>Item</th>
<th>Theoretical mean</th>
<th>Experimental mean</th>
<th>t</th>
<th>Degree of freedom</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identification and development academic goals</td>
<td>18</td>
<td>75/17</td>
<td>-2.08</td>
<td>144</td>
<td>0.040</td>
</tr>
<tr>
<td>2</td>
<td>Identification and development of curricula</td>
<td>18</td>
<td>16/18</td>
<td>1.34</td>
<td>144</td>
<td>0.071</td>
</tr>
<tr>
<td>3</td>
<td>Appropriateness and adaptation of the objectives of curriculum and syllabus</td>
<td>18</td>
<td>02/18</td>
<td>0.23</td>
<td>144</td>
<td>0.089</td>
</tr>
</tbody>
</table>
According to the t, there isn’t a significant difference $\alpha=0.05$ between the experimental mean the theoretical mean. Since the experimental mean and the theoretical mean are equal, the role of information society on the development of Farhangian University was average in the dimension of Planning.

3. What is the role of information society in the organization of Farhangian University?

**Table3.** The role of information society in the organization of Farhangian University

<table>
<thead>
<tr>
<th>Number</th>
<th>Item</th>
<th>Theoretical mean</th>
<th>experimental mean</th>
<th>$t$</th>
<th>Degree of freedom</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Reduction of labor costs</td>
<td>18</td>
<td>18.09</td>
<td>0.71</td>
<td>144</td>
<td>0.0475</td>
</tr>
<tr>
<td>8</td>
<td>Reduction of the cost of consumables such as paper</td>
<td>18</td>
<td>18.28</td>
<td>2.10</td>
<td>144</td>
<td>0.037</td>
</tr>
<tr>
<td>9</td>
<td>Reduce the cost of Educational Equipment</td>
<td>18</td>
<td>18.84</td>
<td>2.74</td>
<td>144</td>
<td>0.007</td>
</tr>
<tr>
<td>10</td>
<td>Efficient use of space</td>
<td>18</td>
<td>18.08</td>
<td>0.69</td>
<td>144</td>
<td>0.486</td>
</tr>
<tr>
<td>11</td>
<td>Efficient use of educational calendar</td>
<td>18</td>
<td>18.24</td>
<td>2.01</td>
<td>144</td>
<td>0.048</td>
</tr>
<tr>
<td>12</td>
<td>Acceleration in the recruitment of specialists</td>
<td>18</td>
<td>17.83</td>
<td>-1.27</td>
<td>144</td>
<td>0.205</td>
</tr>
<tr>
<td>total</td>
<td>Organizing</td>
<td>18</td>
<td>05/18</td>
<td>0.78</td>
<td>144</td>
<td>0.435</td>
</tr>
</tbody>
</table>

According to the t, there isn’t a significant difference $\alpha=0.05$ between the experimental mean the theoretical mean. Since the experimental mean and the theoretical mean are equal, the role of information society on the development of Farhangian University was average in the dimension of organization.

4. What is the role of information society in the commanding of Farhangian University?

**Table4.** The role of information society in the commanding of Farhangian University

<table>
<thead>
<tr>
<th>Number</th>
<th>Item</th>
<th>Theoretical mean</th>
<th>experimental mean</th>
<th>$t$</th>
<th>Degree of freedom</th>
<th>Significance level</th>
</tr>
</thead>
</table>

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According to the t, there isn’t a significant difference \( \alpha = 0.05 \) between the experimental mean and the theoretical mean. Since the experimental mean and the theoretical mean are equal, the role of information society on the development of Farhangian University was below the average in the dimension of commanding.

5. What is the role of information society in the coordination of Farhangian University?

**Table 5.** The role of information society in the coordination of Farhangian University

<table>
<thead>
<tr>
<th>Number</th>
<th>Item</th>
<th>Theoretical mean</th>
<th>experimental mean</th>
<th>t</th>
<th>Degree of freedom</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Adaptation of individuals with organizational goals</td>
<td>18</td>
<td>16.99</td>
<td>0.01</td>
<td>101</td>
<td>0.999</td>
</tr>
<tr>
<td>20</td>
<td>Identification of long-term goals</td>
<td>18</td>
<td>15.70</td>
<td>2.27</td>
<td>144</td>
<td>0.035</td>
</tr>
<tr>
<td>21</td>
<td>Facilitating the creation of strategic management</td>
<td>18</td>
<td>17.65</td>
<td>-2.57</td>
<td>144</td>
<td>0.021</td>
</tr>
<tr>
<td>22</td>
<td>Increasing unity between the human resources</td>
<td>18</td>
<td>16.48</td>
<td>-5.77</td>
<td>144</td>
<td>0.041</td>
</tr>
<tr>
<td>23</td>
<td>purpose orientated human resources activities</td>
<td>18</td>
<td>17.70</td>
<td>-4.25</td>
<td>144</td>
<td>0.005</td>
</tr>
</tbody>
</table>
Reduction of contradictions between the personal goals and objectives

<table>
<thead>
<tr>
<th>Item</th>
<th>Number</th>
<th>Mean of theoretical</th>
<th>Mean of experimental</th>
<th>t</th>
<th>Degree of freedom</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of the organizational performance</td>
<td>25</td>
<td>18.73</td>
<td>18.36</td>
<td>-2.10</td>
<td>144</td>
<td>0.037</td>
</tr>
<tr>
<td>Identification of the teachers</td>
<td>26</td>
<td>18.36</td>
<td>18.31</td>
<td>3.52</td>
<td>144</td>
<td>0.001</td>
</tr>
<tr>
<td>Identification the executives</td>
<td>27</td>
<td>18.31</td>
<td>18.33</td>
<td>2.84</td>
<td>144</td>
<td>0.005</td>
</tr>
<tr>
<td>Clarity in job description</td>
<td>28</td>
<td>18.36</td>
<td>18.22</td>
<td>3.02</td>
<td>144</td>
<td>0.003</td>
</tr>
<tr>
<td>Compilation of organizational chart, Gantt chart</td>
<td>29</td>
<td>18.33</td>
<td>18.45</td>
<td>1.63</td>
<td>144</td>
<td>0.105</td>
</tr>
</tbody>
</table>

According to the t, there is a significant difference $\alpha=0.05$ between the experimental mean and the theoretical mean. Since the experimental mean is lower than the theoretical mean, the role of information society on the development of Farhangian University was below the average in the coordination dimension.

6. What is the role of information society in the control of Farhangian University?

Table 6. The role of information society in the control of Farhangian University

<table>
<thead>
<tr>
<th>Number</th>
<th>Item</th>
<th>Mean of theoretical</th>
<th>Mean of experimental</th>
<th>t</th>
<th>Degree of freedom</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>Identification of the organizational performance</td>
<td>18</td>
<td>18.73</td>
<td>-2.10</td>
<td>144</td>
<td>0.037</td>
</tr>
<tr>
<td>26</td>
<td>Identification of the teachers</td>
<td>18</td>
<td>18.36</td>
<td>3.52</td>
<td>144</td>
<td>0.001</td>
</tr>
<tr>
<td>27</td>
<td>Identification the executives</td>
<td>18</td>
<td>18.31</td>
<td>2.84</td>
<td>144</td>
<td>0.005</td>
</tr>
<tr>
<td>28</td>
<td>Clarity in job description</td>
<td>18</td>
<td>18.36</td>
<td>3.23</td>
<td>144</td>
<td>0.002</td>
</tr>
<tr>
<td>29</td>
<td>Compilation of organizational chart, Gantt chart</td>
<td>18</td>
<td>18.33</td>
<td>3.02</td>
<td>144</td>
<td>0.003</td>
</tr>
<tr>
<td>30</td>
<td>Direct and indirect supervision on students' learning</td>
<td>18</td>
<td>18.22</td>
<td>1.63</td>
<td>144</td>
<td>0.105</td>
</tr>
<tr>
<td>total</td>
<td>control</td>
<td>18</td>
<td>18.45</td>
<td>2.46</td>
<td>144</td>
<td>0.015</td>
</tr>
</tbody>
</table>

According to the t, there is a significant difference $\alpha=0.05$ between the experimental mean and the theoretical mean. Since the experimental mean is higher than the theoretical mean, the role of information society on the development of Farhangian University was higher than the average in the control dimension.

DISCUSSION AND CONCLUSION
Present era is a combination of communication and information. An era in which human beings need knowledge and communication more than ever. Nowadays, with the possession of advanced information and communication technologies, the rapid establishment of communication and exchange of information has been possible. People can get the latest information wherever they are. But undoubtedly, the greatest impact on learning environments has been the emergence of information and communication technologies. The use of information and communication technology in education has led to the virtual learning environment. This causes the communication of people in the form of teaching and spreading of knowledge be possible through computers. The present study investigated the role of information society in the development of Farhangian University. One sample t test was used to investigate that role from the viewpoints of experts, staff, and faculty members. The results showed that the role of information society in the development of Farhangian University in the dimensions of organization and planning was at an average level, this is consistent with the results of the investigations of Shabani (2003) and Ghafari (2004); they investigated the role of information technology in the development of the educational system. But the role of information society in terms of command, coordination and control is lower than the average. Due to the low indicators of the Information Society at the University of Farhangian, it is recommended that officials and managers take advantage of information society indicators in education, research and patterns of teaching and learning to finally reach the concept of culture building in the society.

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THE PROCESS OF PERFORMER PRESENCE AND AUDIENCE PARTICIPATION DANTO CRITICISM ON MARINA ABRAMOVIC “THE ARTIST IS PRESENT”

Farinaz Saberian
Ph.D. student, Alzahra University, Tehran, Iran
farinazsaberian@gmail.com

Mansour Hessami
Associate Professor, Alzahra University, Vanak, Tehran, Iran
m.hessami@alzahra.ac.ir

ABSTRACT
Marina Abramovic is an artist whose work is astonishing same as her life. She uses her body as main subject and media of her art. This Serbian artist living in New York, rose to fame in mid 70s through her creative performance which were created collaborating Oley, German artist. When they finished working together after 23 years, Marina Abramovic kept on her work alone and eventually became the most famous female performance artist who was the person that converted performance to an institutionalized shape of art. Her performances are personal and physically and emotionally are overt and risky. In her performance, this artist put commonplace actions as criteria to be able to reveal their hidden power through this. She believes that an artist should suffer because the best works will be manifested through pain. Pain brings transfiguration with itself and artist’s spirit will excellence. Prominent indexes in her performances include the relationship between artist as performer and audience, physical tolerance and mental concepts facilities. One of the most famous performances of her is called “the artist is alive” which had been proposed in New York modern art museum in 2010 in seven hundred and thirty six hours (during three months). Arthur Colman Danto, American Philosopher and contemporary art critic also participated in mentioned performance, an excellent master or philosopher who is considered as one of the most famous theoretician in field of art. This performance is the longest history performance and the most alive show which is held in this museum up to now. In current article, mentioned work will be analyzed. The question is that what the goal of mentioned artist is about performing this work and what concept is hidden beyond this performance.

Keywords: Marina Abramovic, Arthur Danto, conceptual art, performance art, investigating “the artist is present”

INTRODUCTION
No other art influential movement may have the power of conceptual arts now or even in future to attract a significant number of artists through a wide recall and maybe no art same as conceptual one can integrate with daily life of people in various communities. Conceptual art’s doors are open for coming and going and this freedom will be the main essence of the each original art. The relationship of artist, artwork and audience will be developed in conceptual works and relying on his individual logic, artist takes advantage of direct statement and language facilities in nature and life and in many cases, in addition to the nature of objects, political, social and technologic realities will form his work’s subject. In this relationship, audience and sometimes artist himself are considered as parts of the whole work of art and its meaning. Nowadays in conceptual artworks, performance art, installations, video part and many other conceptual art media are easily combine with each other and create a new environment which can’t be found in academic typing.
RESEARCH HISTORY
Relating to conceptual art and its various branches such as performance art and body art, there are many studies and researches that some of them are English and the others are translated into Persian such as Daniel Marzona in book conceptual art (2011), Lordana Parmezani in book “twentieth century riots”, movements, theories, schools and tendencies (2010) and Howard J. Smagola in book “contemporary tendencies in visual arts (2002). Some pages are also allocated to new art subject in some of related papers to art and there are some researches about conceptual art, the way of its forming and its various branches. The newspaper “Tomorrow art” also is one of those newspapers which have proposed valuable information related to contemporary art. In spite of this, related to the last performance work of Marina Abramovic which is considered as the longest history performances, there aren’t any direct researches.

METHODOLOGY
This article is based on analytic-descriptive method and collecting data method is librarian one using written or digital references. Internet has been used for collecting the sample of works.

CONCEPTUAL ART MOVEMENT
Conceptual art can be considered as a movement in contemporary art which has developed its principles and methods and used other art achievements and methods for achieving its goal which is that very transmitting ideas. In fact after this movement the idea of holding visual exhibitions was promoted after this movement because from painting form and 2D works proposed on surfaces, visual art has achieved 3D spaces and constantly was testing spaces, methods and facilities of all other branches of art (Stango, 1977: 257).

The expression of conceptual art was first used in America in 1961. Henry Flynt the artist of Fluxus movement used this expression with the same name in an article (1963) to mention a kind of art, an art which its distinctive feature is that very method which works with languages. Some years later, the expression of conceptual art was replaced with the art of concept. This expression was invented by Sol Lewitt. In his articles namely “some information about conceptual art” (1967) and “some sentences about conceptual art” (1969), he drew wider range of people’s attention to this expression and could help them for better perceiving of this concept (Marzona, 2011: 8).

Parmezani says:

It is obvious that conceptual phrase can refer to numerous aspects of modern art- from definition of neoclassical artist, Anton Raphael Mengs about “painter, philosopher” to Marcel Duchamp prepared works but modern art generation conceptualism included other definitions as well (Parmezani, 2010: 159). The years of 1960s was the time of looking for reality and recognizing their soul for many artists. In parallel with theoretical and practical challenges in art structure, they used various investigations in “self-knowledge” that a significant part of that was concentrated on body subject. The result of these experiences was a new genre of conceptual art that considered body the material of art work so was literally famous as body art. Back body art appeared in the shape of critical and protesting art and continued more in a path of a new empirical approach and a media heresy in art. An important part of primary experiences was performed as performance and alive in front of audiences. But later performances were mainly shown using mediating media such as photo, movie, and video for people.

PERFORMANCE ART
“a type of show” in order to propose modern art images and even advertise social thoughts and political beliefs which has been common since twentieth century occasionally, some people call it “alive art”. Being alive is its main characteristic that is performed in front of audience and sometimes with their participation or actors, dancers and professional players accompany performer. Other factors such as postcard, neon lamp, picture and slide are maybe used in this type of show. Previous samples of performing art were with futurism, constructivism, dada and surrealism. Since years after Second World
War till now in America and Europe, various and more particular forms of art have been emerged. Events, art and physical action, earthy art and conceptual art are linked with that (Pakbaz, 2007: 652).

Performance art is a proposal which is given to audience traditionally as inter-major. There is a possibility that performance is written in advance and is organized full accurately or vice versa it is proposed accidentally, with participation or lack of participation of audience. Performance art can happen everywhere or location and every time. Actions of a person with a group of people form work’s framework in a particular time and place.

More than other kinds of dramatic arts, performance art is defined with the presence of one performer (artist), audience (people who are watching) and performer’s action. In dance art, when a dancer performs dance, the existence of audience isn’t necessary. In theater art, actors don’t need audience but performing art will stop without the presence of audience and only converts to action.

Howard J. Smagola in book “contemporary tendencies in visual arts” discusses as below:

“Performing art and video were admired as the precursors of a new era in beginning of 70 decade, an era where shapes had played an important social and aesthetic role. Authorities believed that using empirical media, visual arts will move their old dependency to the objects’ materiality and join audience more direct than before. Through intensified reality of a live event, more groups of people are available and it will have wider and more comprehensive effect on the whole of audiences” (Smagola, 2002: 327)

In fact younger group of present artists used to consider audiences as a partner in artwork not an opponent. The origins of the history of performance art of the twentieth century refer to the Futurists of early years of century. “Philipo Martinetti, a member of this group, held a performance of particular events in Trieste Italy in 1910 and six years later, Dadaists performed several shows in Voltaire Cabaretin Zurich” (Ibid, 328)

Performance cannot be only defined as a particular structure or work. All forms and media are under the service of artists from video to photo and from statue to painting and lightness. No story is defined in performance. In fact the art of performance is a “cocktail” art that has been born in 1960s as a result of several art branches such as painting, video, music, dance and theater. The artists of this era use the components of visual, audio, performance arts and also traditional ceremony and commonplace for their performance and body is also considered as an artistic tool.

In his article namely “On art, action and measuring”, Arthur Danto has responded to some of questions in the field of art subject. To answer this question that if performance art is really art, Danto says:

“Before answering this question, we have to determine what the art is or how it is defined; the oldest theory in west about art can be found in republic tenth book. Plato defined art there as imitation. Then he announced that using mirror, achieving a complete imitation is very simple. His purpose is showing that art belongs to the territory of reflection, shadows, dreams and hallucinations. He as following divided world based on three degrees of reality. The highest reality can be found in a territory that he called it “ideas”, that is objects’ form or shape. Ideas are received by mind. Next degree of reality is related to common objects, similar things which a carpenter makes. Artist only knows how an object seems same as the way he creates it in painting or drawing. The knowledge of carpenter is more than artist’s knowledge. The beds which are made by him get and maintain sleeping bodies. The highest knowledge belong to people who achieve the idea of constructing bed and how they can keep body and the least important knowledge –if it can be considered as knowledge- is related to artist’s ability in painting the picture of beds that shows only appearance. This famous plan of world and its degrees of reality was made clearly to put the art in his place, it means that hallucination, dreams and shadows territory is a useless creature in terms of knowledge and awareness” (Danto, 2010: 1).
Following that Danto says that he mention this subject in article “The philosophical disenfranchisement of art” and it shows that why philosophers tend to use art slightly; he says several utterance of Plato emphasized the inferiority of art and political message of republic is that philosophers whose territory is their ideas should be king. Danto says: “imitation theory which is the name of this attitude toward art has a power also and Aristotle considers scenarios and epics in “Poetics” as imitating from events and occurrences. Nothing had been recorded from ancient performances, the ones which might have been difficult and represented the power and resistance of performer. But performance isn’t an imitation from an action but it is action itself. Art and reality get united in it. In mid-1913 and 1917, Marcel Duchamp proposed some ready-made objects that the most famous one was fountain and showed men restrooms. In 1964, Andy Warhol showed some copies similar to cargo cartoons. An artwork and a cargo box can seem exactly similar to each other, so what is their difference? What is the difference in sitting in front of somebody in a performance and merely sitting in front of somebody? Artwork has meaning, it is related to something and involves that meaning” (Ibid: 2)

As it was mentioned before in performance art, artist’s media and tool is his body that sometimes naked or stuck in very dangerous situation. As Danto states, “what distinct performance art from other arts is the presence of artist’s body. This presence will appear with artist. Separate artist’s body from art then you will see that the holiness which performance has will fade”. (Ibid)

**MARINA ABRAMOVIC**

Marina Abramovic was born in November 13th 1946 in Belgrade, Serbia, lives in New York; she has started creating performance art professionally from the beginning of 1970s. Through 3 decades of activity, she tries to show herself as “The mother of performance art”. She is perfect performer and is considered as one of art pioneers. Marina Abramovic proposed her works in forms of installation, performance and video art. Her works investigate the relationship between performer, audience and body’s limitations. Her performances rely on physical ability and she pays attention to commonplace in her works. Many of her works are considered as one of the most dangerous ones. In performing her works, she relies on audiences’ participation and company and used her body as her work’s tool and subject ([www.wikipedia.com](http://www.wikipedia.com)).

The performance of this artist has two aspects: body and pain

In answering this question that what has caused that risk and pain concepts are parts of her works, in an interview with “Art Monthly” magazine, she says:

Pain subject is generally attractive, we are usually afraid of pain, of death and torturing that all of these have been always one of the most primary conflicts of human. Many artists have worked on this subject with different methods and ideas. It has been always attractive for me to know how traditional and ancient people applied this subject in their ceremonies and customs during history. Its reason in history isn’t masochism but there is a simple reason for that and it is facing pain, for getting rid of fear and meanwhile enter a new stage of awareness, I couldn’t have this risk taking in my own life but I get a kind of energy from audience on the scene that gives dare to face dangers, through this way I swipe away my fear ([www.artmonthly.co.uk](http://www.artmonthly.co.uk)).

**A REVIEW ON ARTIST’S WORKS**

Some of primary works of Marina Abramovic which are mostly from the most dangerous ones of her performances not only get audience’s participation but also inspires their potential violent.

“Marina Abramovic in Belgrade created a work namely “Rhythm O” in 1974; she let audience who gathered in Naples gallery to bother her for 6 hours. Till third hour her cloths had been cut by razor and her skin had been injured as well, a loaded gun was pointed at her head that caused a fight among her torturers and because of that frightening interruption happened in work. In 1975, another performer artist
became partner for her who is called Uley and they both together tested the relationships of pain and resistance between themselves and audience. “Imponderable” was a performance where these two stood in front of each other nakedly across from framework; people had to enter exhibition place through the remaining small gap between the two bodies. In another work namely “relation in movement” Uley drove a car for sixteen hours in a small circle while Marina –she was in car too- counted the number of rounds by him but peak point of artistic skill of their common resistance was performance “The lovers, The Great Wall Walk” (pic 1). In this performance that lasted 90 days, Abramovic from the eastern end of the Great Wall of China and Uley from west end of wall started walking to the center in order to meet each other and in intersection they cut relationship and finished their partnership” (Goldberg, 1988: 165).

Source (weidemann, 2008, 130)

In Venice Biennale 1997, this artist could get golden bear award through proposing one of her most important works namely “Balkan Baroque” (pic 2). The main subject of this performance was bitter memories that were rooted in her nationality and had gained a new subjectivity as the result of Bosnia war. Through a video installation, some pictures of artist and parents were shown in this performance and simultaneously, she was sitting beside a mass of cow bones and her environment was surrounded by Copper containers full of water. For 4 days, she had to wash and clean 2500 kilos of cow’s bones (5500 pounds) and at the time of doing this, she sang some folklores of her mother tongue (Weidemann, 2008: 129).
This artist now wants to establish an art center specialized in performance art in Hudson of America which will be called the institution of Marina Abramovic.

**INVESTIGATING AND ANALYZING THE WORK OF “ARTIST IS PRESENT”**

In 2010, MOMA museums, held a complete exhibition of professional history of Marina Abramovic, great lady pf performance art, for three months. This was the first time in the history of this museum that a complete exhibition was allocated to the professional path of an artist.

This famous performance artist is in his 60th decade of her life and so it isn’t strange that most of her works have been re-performed by young people. The work which was performed by her was called “the artist is present”. In this performance she used to sit in museum’s hall every day and people could sit in front of her without talking to her.

Some of people who were present in this performance evaluated it shocking. In this performance artist and artwork are completely combined with each other (picture 3).

**Picture 3-** Marina Abramovic, the artist is present, performance in MOMA museum in New York, 2010

*Source: (Lucy Smith, 2011: 41)*
James Westcott states in an article which he published in New York Times (August 18th, 2011) following this performance: in face to face confrontation, eye contact causes absolute presence and spirit refinery (many people out of 1400 ones who were sitting there cried) but when it is proposed online it converts to obsessive categorizing and the game of recognizing famous people while live performance involved transmitting thoughts in a deep and dizzy form, when it was observed online, it was addictive and alienation” (Lucy Smith, 2011; 44).

Edward Lucy Smith in an article namely ego representation about this work says:

“This kind of attitude to herself is sadly familiar for contemporary interpreter or art critic. Huge ego of many contemporary artists always seek to find an opportunity to occupy all possible space and even get wider, a path that led to present space has started from a point totally before present era. In fact this kind of attitude had been existed in an era before we call it modern”. (Ibid, 40)

Through performing the artist is present which is considered as the longest performance of history has left relatively deeper effect than her previous works, an effect that isn’t flown from violent anymore, there isn’t anti-art spirit in it and it works with emotion. “This was a performance that involved the imagination of anybody who was interested in contemporary art, moments full of spiritual interaction As Danto states. Each one of us during our lives, how many times experience such this thing? (www.cupblog.org/p=1891). This performance in common days lasted seven hours and on Fridays 10 hours and Marina Abramovic looked at 1565 people’s eyes during continues performance in New York modern art museum and what interesting is that most of them after looking at her eyes had cried!

Arthur Danto was present in above performance and one of people who sat in front of Marina Abramovic in New York modern art museum and interacted in this performance. In an article namely sitting with Marina after presence in above performance, he says:

“Because of my role as a philosopher and critic who is an artist, I am often asked that what the meaning of new work which is designed for such this situation is? This work consists of Marina who is sitting on a chair in a hall of museum while across from her there is an empty chair which is ready for everyone who likes to sit there in anytime. This performance caused that this museum is placed on the edge of artistic experience winner. An experience that was successful in any aspects.

As a witness of the creation this work, I had accepted to write an article based on above performance. Since I use wheelchair now, a person took my wheelchair across from Marina and picked up empty chair. My turn started as a part of artistic work. Marina looked beautiful in a dark red dress; a dress that its edges reached to the ground and made a circle and her black hair was braided to one side. I didn’t have any idea to do what except keeping silent in a special atmosphere that was between me and her. This performance was similar to a dialogue between two deaf people, communication was in another level. I dared and moved my hand as the symbol of hello that as respond Marina slightly smiled (picture 4).

At this time something interesting happened, Marina slight angle bent her head to one side, stared at me and meanwhile she seemed to enter another mood. I was out of her staring sight, her face looked bright but it wasn’t bloodshot. She entered an atmosphere that formerly called it performing mode. It was same as magical trance. Her ability in entering this mode is one of her talents as a performer and this is what enables her to pass her difficult physical work in her famous performances. The question was that how long it was supposed to be there? I thought that I could sit there for a long time, for one moment I thought all of my sickness has gone. It seemed as if I was in skies and with God. After passing 10 minutes I thought this is unfair to keep people waiting. I shook my hand and someone took me out of there (Danto, 2010: 3).
About her work, Marina Abramovic says:

In my idea, the most important and attractive part of this performance is trying to communicate with audience. This project was an important opportunity for me to communicate my audience interactional. This kind of personal communication makes the experience utterly different. The other point which was totally important in my point of view was the location of performance in museum building. The place I used was placed in the heart of museum and it was exactly the point that visitors passed there to get floors or other halls of museum and this sense of continuous motion around this permanent silent, made this work particularly attractive.

This work needed high spiritual and physical preparedness. It seemed simple but sitting on a chair without movement for 7 continues hours, is very difficult. To do this determination is very important, because it makes you resist, not move and go on. Here there is an extraordinary event. When body perceives that you aren’t supposed to move, pain will fade and a kind of experience forms out of body, it seems poetic but it is real. It seems as if you leave your body. Pain comes back again, but you have to try and keep on. It took me two years to prepare myself for this performance.

What used to happen to the audience was extraordinary also. Some became uneasy or angry because so long they were waiting for their turn; some became hallucinated or draw their attention to themselves. Anyway after six or seven minutes were entered to another dimension that sound faded on it. So I faded there too as if they become mirror of themselves, their inner feelings manifested. I heard the sound of crying several time. When I saw the museum’s guards came and stood in line on holiday to participate in this program was one of my most shocking experiences during execution of this project. The longest time that somebody sat in front of me was seven hours! That person comes back again and 31 hours sat. There were people, who had no idea of performance art and visited the museum just as a tourist, but something was changed within them and it was so important for me. Performance art has a strange power, not just on the artist's life but on the lives of those who experience it. But only very long performances have this power because if performances are one, two or even five hours, there is still possibility to pretense and role-playing of artist. But the performance which lasts three months turned in to real life.

Finally after seven hundred and thirty-six performances chairs were removed and remained just a mark of them that identifies the place in the hall. Later, people came and kissed the marks. I do not know why, but this scenes were too shocking (www.artmonthly.co.uk)

Danto believes that «Possibility to sit with Marina, led people to this idea that one can do more than in different face in facing with an artwork and can be a part of an artwork, for the time he wants or can. He said the artist's presence was treasure that in honor granted and Marina created intimacy with her presence which in terms of importance, needs nothing beyond of her. This was a time for spiritual exchange.» (Danto, 2010:2)
One of the concepts which is raised and found special place whether in art criticism or in artistic creation in recent decades is concept of "audience" and even his priority and interaction in artwork creation.

Artists of interaction art produce their artwork by various and different trends but their common goal is engaging the audience by artwork, being in the context and changes it. Interaction art don't want concept-removing but want the audience explore a concept and rebuild it.

A question that is raised for audience during the interaction by artwork encourages him to think about the artwork and may offer new insights to him.

In studied artwork we see that audience finds a dignity of the artist, collaborated with him in creation and performance of artwork and by his physical presence against artist, the artwork is formed.

Another feature of "The artist is present" performance is silence and stillness, an emotional silence and stillness which are achieved by looking only. Artist sits on a chair by a long robe and looks. Looks that may have separated time each one, one minute, one hour or more. In this performance, people open their eyes like a door which closed on their souls, despite the inactivity and freezing and a sense of intimacy and emotional relationship is formed by looking to artists' eyes, and now this question arises that why do people avoid looking in to each other's eyes?

Fully presence in the moment can be the purpose and idea of this performance, neither the past nor the future. But presence in the present is about starting "current time" and "now" also in artist and audience of "The artist is present".

Human always thinks about the past and future and less time spent in present. Performance is created at the same moment in time and position, in fact. Audiences by sitting on a chair, in front of the artist and looking up his eyes don't look at him in fact because artist acted as a separation and preservatives and a mirror and audiences reflected their feelings on themselves and receiving all of these feelings.

CONCLUSION
Conceptual art implies on various type of art that the idea of art is more important than means of expression and final artwork. Conceptual art movement as a movement along side other artistic movements of the sixties which has been manifested to priority the intended concepts of the artist on the way of providing it, covered other parallel art movements by broader sense and affected many artistic movements after that and artworks presentation of artists severely, such that it can be noted performance art, body art and installation.

Performance art was born from collision of some art branch such as painting, video, music, dance and theater. Artists of this field use from elements of the visual arts, audio, performance and ritual and daily life for their performance and body considered as an artistic tool in this form. Marina Abramovic, the great pioneer of performance art began using the body as subject, media and object in her artwork of the seventies. She is remembered as "artist of pain" because most of her artworks appear hurt seeking somewhat. She analyzes testing the limits of body stability and resistance against time in her performances.

It can be said that this artist has reached to an unattainable give and take with participants by creating her last performance, "The artist is present" and cause them to react which are the deepest human feelings. Something that perhaps nowadays human does not matter to it, a human as Abramovic, does not look to other human eyes. Artist prepares herself in this performance for hard experiences and showing his existence to others and achieve to self-awareness by raising the risk of his experience. Suffering from the performance plays an important role in her creativity. Suffering is an experience of death. This suffering is evidence of the desire to live and reminds the artist that she is alive.
At "The artist is present" performance, front seat of artist is empty and audiences, whether viewers' exhibitions etc. are inseparable part of the artwork and they involved in the creative process of this performance, now performance has found an interactive properties because the artwork is formed by physical presence of audience against artist's. The concept of this performance is lack of movement and physical stability in addition fluidity of mind. The features and goals of this performance are stillness and silence on the performance, presence of artist and audience in the present neither in the past nor the future and stay, tolerate and resistance to suffering.

Arthur Danto, philosopher, theorist and art critic of Nation magazine and author of several books and articles in the field of analytic philosophy, philosophy of art and contemporary art, was among the witnesses of creation of this artwork and has contributed in the above performance. He participated in artwork's exhibitions of contemporary artists and has written on many catalog of artworks' exhibition and has brought many philosophical and artistic ideas in to public issues. Participating in the above performance is described as an amazing experience for himself and a dedication of the artist by Danto, A deep thanks and hard artwork which has been transferred to people who are sitting in front of the artist. Time for intellectual exchange which is achieved by sharing the presence of each other.

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IDENTIFYING THE TYPES OF MARKETING AND SALE OF CARPETS AND RUGS OF ILAM PROVINCE ENTREPRENEURS

Maryam Majidi
Department of Marketing Management, Ilam Science and Research Branch, Islamic Azad University, Ilam, Iran

Mohammad Eidi
Department of Marketing Management, Ilam Science and Research Branch, Islamic Azad University, Ilam, Iran

ABSTRACT
The aim of this study is to identify ways of marketing and sales of carpets and rugs entrepreneurs in Ilam province. This research is descriptive-correlation method that has been conducted in field. The target population in this study consisted of scholars, experts, hand-made carpets and rugs, in Ilam province to 120 people. Due to the limited population of the province in the field of hand-made carpets and rugs all-census, the census is used. The gathered data from two questionnaires with 28 questions is mixed marketing and sales entrepreneurial questionnaire that included questions is 9, was used. Their Cronbach’s alpha is 0.76 and 0.78, respectively. To analyze the data, t-test was used to rank single group and Friedman. Data analysis was performed using software spss22. The results showed that advertising is the key to selling hand-made carpets and rugs. After that, the second is the distribution channel and price and the factors related to the product ranked third and fourth.

Keywords: marketing, sales, carpets and rugs

INTRODUCTION
In fact, progress is a farewell to the past and the past, light the future, the reality is that in the future the past, present and future cannot be absolutely wiped the last of the composition of (Esfandiari, 2008). In any case, the future, present and past, there should be a clear difference, that is, the changes in the elements and structures that nation sees it and obviously developed is based on the time axis. The successful companies have in [global competitiveness in international markets are in search of opportunities to achieve their desired goals and protect their own markets from the position and survival of (Esfandiari et al, 2010). Although the carpet, as the most noble Iranian handicraft is tied with the name of my country and the world known carpet with Iran, one of the most authentic and traditional crafts among the people of Ilam province in recent years has been invented “carpet embossed” the shortcomings of traditional crafts development in the country, is also facing the original art and the new Elamite. Crafts masterpieces of human art in the development of science, culture, economics and community development have an important role and can serve as the cause of the relationship between the United Nations and be based on the principles of cultural communication in the world. In the meantime, Iran Ilam Province, in terms of handicrafts rich and diverse they are trying to achieve through sustainable development but it is clear Achieving this goal requires an understanding of crafts and factors and identifying the types of marketing and sales at building and its diversity as well as its social effects. Tribal life, traditional livestock livelihoods for life, made people in the region of Ilam province has long been closely co-existence with wool and yarn. For this reason, crafts related to these products, especially carpets and rugs in the province’s prosperity. In terms of consumption, the bulk of carpets and rugs produced by women is woven and consumer aspects. Carpet leading role, in terms of originality and production, the most important and the most distinctive handicrafts and indigenous people is of Ilam
province. Due to the creativity of the master weavers in the context Elamite bas-relief products, it has made great progress in the field of products. Generally, hand-made carpets and rugs in Ilam province is of great prosperity, comes. Each year significant quantities of carpets and rugs, hand-made carpets and rugs weaving centers of Ilam province that are part of its production is for domestic consumption and the rest is exported to foreign countries. Scientific research about carpets and rugs in Ilam province is limited. Therefore, research in this field an important step in recognizing, preserving and promoting the artistic heritage. The field research method aimed at identifying ways of marketing and selling hand-made carpets and rugs Ilam province’s entrepreneurs. Select the most appropriate approach to domestic and foreign markets, shaping the strategies of a firm's entry into these markets as well. A variety of methods, each with advantages and disadvantages that have production units’ carpets and rugs have led to special measures to consider in this regard. Devastating defeat that some production units and carpet products in the domestic and foreign markets have experienced. Researchers Management Sciences and Economics has also sensitive to this issue, so that the interdisciplinary field called “entry method” to check and analysis of this issue has emerged (Chen et al, 2010). Theories input method can be divided into two categories: descriptive and prescriptive. More descriptive theory to describe and analyze the behavior of firms and their different experiences in entering big markets addressed and prescriptive theory is also based on descriptive theory, the decision-making process and the introduction of effective strategies, will help to select the correct input. Now our country is moving towards a knowledge-based economy is of great importance and necessity of this transformation, interaction and exchange of knowledge, technology and products with the world. Knowledge of the mechanisms and methods of entry to world markets for companies and organizations who are on the path of globalization, is a fundamental necessity (Novak, 2010). Globalization as a dominant phenomenon in the global economy in recent years, and especially in the current situation with global embargo on Iranian markets, a significant impact on manufacturing and service organizations will leave strategies. One of these effects, importance and complexity of carpets and rugs Province entry to foreign markets (Webster, 2005). In the past, entering a foreign market through transit and destination market sales happening now numerous ways and mechanisms to enter a market out that selecting input method that effectively among them, can lead to successful market presence. It is important that carpets and rugs two very prominent role of Ilam province in the country where it is considered among the best and quality textures. Therefore, addressing the issues mentioned can be a big step for knitting Elamite have the right to determine what is the working class to be awarded (Ahmad & Darwish, 2011). The paper attempts, on the basis of theoretical principles combined with the experience gathered from the literature and discuss some of the exporters of carpet and rugs in the province and the country, opens new valves to managers and decision makers, companies and cooperatives influential in global markets. Given that the issues involved can be stated that this study is to identify ways of marketing and selling carpets and rugs of Ilam province's entrepreneurs. So that appropriate strategies can produce carpets and rugs with the terms of the province surrounding the production was re-opened.

METHODOLOGY
This research is descriptive-correlation method that has been conducted in field. The target population in this study consisted of scholars, experts, hand-made carpets and rugs, in Ilam province to 120 people. Due to the limited population of the province in the field of hand-made carpets and rugs all-census, the census is used. The gathered data from two questionnaires with 28 questions is mixed marketing and sales entrepreneurial questionnaire that included questions is 9, was used. Their Cronbach’s alpha is 0.76 and 0.78, respectively. To analyze the data, t-test was used to rank single group and Friedman. Data analysis was performed using software SPSS22.

FINDINGS
In the descriptive part, the results indicate that the majority of subjects in this study population, 75 patients (62.5%) were male. The age of the study population, 66 patients (55.0 percent) were aged 30 to 40 years. According to Kolmogorov-Smirnov test result, all research questions have significantly higher levels of 0.5.
According to Kolmogorov-Smirnov test result significantly above the 0.5 level all significant research questions. Therefore, data are normal. So, to test the research questions parametric tests should be used.

Table 1. Results Kolmogorov – Smirnov

<table>
<thead>
<tr>
<th>Kolmogorov – Smirnov test</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality effect on the sale of carpets and rugs</td>
<td>0.072</td>
</tr>
<tr>
<td>effect of price on the sale of carpets and rugs</td>
<td>0.068</td>
</tr>
<tr>
<td>advertisement of price on the sale of carpets and rugs</td>
<td>0.087</td>
</tr>
<tr>
<td>distribution channel on Carpets and rugs sales</td>
<td>0.076</td>
</tr>
</tbody>
</table>

Results in Table 2, according to test results $t = 35.32$, are at a significance level ($0.05$) because the amount $t$ of $1.96$ is the standard level. Thus, H0 is rejected and the default is $1 \ H$ approved.

Table 2. Single-sample t-test results for scale factors related to the product

<table>
<thead>
<tr>
<th>Confidence interval %95</th>
<th>Sig</th>
<th>t</th>
<th>Standard deviation</th>
<th>mean</th>
<th>Average one-sample t-test variables related to the scale factors related to the product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher bound</td>
<td>Lower bound</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.73</td>
<td>3.39</td>
<td>0.000</td>
<td>35.32</td>
<td>1.12</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Results in Table 3, according to test results $t = 36.02$, are at a significance level ($0.05$) because the amount $t$ of $1.96$ is the standard level. Thus, H0 is rejected and the default is $1 \ H$ approved.

Table 3. The results of the one-sample t-test for scale price

<table>
<thead>
<tr>
<th>Confidence interval %95</th>
<th>Sig</th>
<th>t</th>
<th>Standard deviation</th>
<th>mean</th>
<th>Average one-sample t-test variables related to the scale factors related to the product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher bound</td>
<td>Lower bound</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.74</td>
<td>3.28</td>
<td>0.000</td>
<td>36.02</td>
<td>1.11</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Results in Table 4, according to test results $t = 35.41$, are at a significance level ($0.05$) because the amount $t$ of $1.96$ is the standard level. Thus, H0 is rejected and the default is $1 \ H$ approved.

Table 4. The results of the one-sample t-test for scale advertising

<table>
<thead>
<tr>
<th>Confidence interval %95</th>
<th>Sig</th>
<th>t</th>
<th>Standard deviation</th>
<th>mean</th>
<th>Average one-sample t-test variables related to the scale of advertising</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher bound</td>
<td>Lower bound</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.74</td>
<td>3.28</td>
<td>0.000</td>
<td>35.41</td>
<td>1.11</td>
<td></td>
</tr>
</tbody>
</table>

Results in Table 5, the results of the one-sample t-test for scale distribution channel
Results in Table 5, according to test results \( t = 35.03 \), are at a significance level (0.05) because the amount \( t \) of 1.96 is the standard level. Thus, H0 is rejected and the default is 1 H approved.

**Table 6. Ranking the component of marketing methods**

<table>
<thead>
<tr>
<th>result</th>
<th>Sig</th>
<th>Degrees of freedom</th>
<th>Chi square</th>
<th>sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating is possible</td>
<td>0.000</td>
<td>3</td>
<td>7.819</td>
<td>120</td>
</tr>
</tbody>
</table>

According to Table 6, sig amount equal to 000... Is. Since sig is significantly below the surface, therefore, the null hypothesis cannot be confirmed. We can say that the variables have the same rank and can be prioritized. Component priority order shown in the table 7.

**Table 7. Friedman test**

<table>
<thead>
<tr>
<th>variables</th>
<th>Average ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>advertising</td>
<td>2.68</td>
</tr>
<tr>
<td>Distribution channels</td>
<td>2.56</td>
</tr>
<tr>
<td>price</td>
<td>2.52</td>
</tr>
<tr>
<td>product</td>
<td>2.24</td>
</tr>
</tbody>
</table>

**DISCUSSION AND CONCLUSION**

The results show that the question of diversity of products offered (to a variety of products in each serving), size suitable for the product, product color design, product quality as it has been promised, delivered at the right time, designer and texture product, harmony of colors and designs of factors related to quality, the sale of carpets and rugs are handmade. The issues raised by the first question, the \( t \) test is more than the standard level. Therefore, assuming the null hypothesis is rejected and is confirmed. The assumption is that there is a significant and positive impact the factors related to the product and selling handmade rugs and carpets. So the first question, research, verify, and these findings factors related to the sale of goods Carpets and rugs entrepreneurs) are in parallel (with the findings of Esfahani and Rudabadi (2012) and Akbarzada et al (2011). The decision to set policy questions related to commodity prices, decisions on policy combining elements of marketing, responsible for determining the price of the product, the rules affecting the price (legal policy), covering the cost of production, distribution and sales, awareness of the relationship between commodity prices and demand which, considering the economic conditions and consequences of the implementation of pricing policies, price factors are related to the sale of carpets and rugs handmade.

The issues raised by the second question, the \( t \) test is higher than the standard level. Therefore, assuming the null hypothesis is rejected and is confirmed. There is a significant and positive impact between the price and the sale of carpets and rugs. So, the second question is approved, and the findings (the price
impact on sales of carpets and rugs entrepreneurs) are in parallel with the findings of Esfahani and Rudabadi (2012) and Akbarzada et al (2011). The results showed that the questions set a clear propaganda purposes, to determine the advertising budget for each of the goods, the role of advertising in influencing the demand for goods, supplying innovative advertising messages over budget, according to the advertising and communication, media selection, chosen by messengers, the decision about the timing of media are among advertising factors on the sale of hand-made carpets and rugs.

The issues raised by the third question, the t more than the standard level. Therefore, the null hypothesis is rejected, and given an approval. There is a significant and positive impact between advertising and sale of carpets and rugs. Therefore, the third research question is approved. These findings (advertising impact on sales of carpets and rugs entrepreneurs) are in parallel with the findings of Esfahani and Rudabadi (2012) and Akbarzada et al (2011).

The results showed that the questions co-founding member distribution channels, functions of distribution channels, choosing distribution channels, determine the number of intermediaries in the distribution channel of distribution, distribution channel strategy in the context of marketing methods designed, strong desire to draw strategies distribution channel are among factors on distribution channel sales of hand-made carpets and rugs. The issues raised fourth question, the t more than the standard level. Therefore, assuming the null hypothesis is rejected and is a confirmed. There is a positive and significant impact between distribution and sale of carpets and rugs, hand-made channel. The fourth question is approved study. These findings (carpets and rugs entrepreneurs’ sales distribution channel effect) are in parallel with the findings of Esfahani and Rudabadi (2012) and Akbarzada et al (2011). The results showed that advertising is the key to selling hand-made carpets and rugs. Followed by distribution channel is in second place. Then, the price and the factors related to the product ranked third and fourth.

REFERENCES
THE EFFECT OF TECHNOLOGY AND ADMINISTRATIVE AUTOMATION ON EMPLOYEES’ WORK LIFE QUALITY (CASE STUDY: DEPARTMENT OF YOUTH AND SPORTS OF KERMANSHAH PROVINCE)

Zahra Keshtmand  
MA Sport Management, Kurdistan Science and Research Branch, Islamic Azad University, Sanandaj, Iran

Mohammad Nowrozian  
MA Student Sport Management, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran

Khidan Hatami  
Department of Physical Education and Sport Science, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran

ABSTRACT
The aim of this study was to evaluate the Effect of technology and administrative automation on Employees’ work life quality of Directorate General of Youth and Sports Kermanshah province. This research is descriptive-correlation method that has been conducted as a field study. The statistic population was the General Directorate of Youth and Sports in Kermanshah province which their number was 125. Morgan table was used to determine sample sizes of 95 patients were randomly selected to participate. To collect data, a questionnaire Adel automation (2008), and the quality of working life and Walton (1973) were used. Validity was confirmed by experts. Reliability of questionnaires were obtained $\alpha = 0.92$ for administrative automation and $\alpha = 0.76$ for quality of working life by Cronbach alpha. To analyze the data, the Kolmogorov-Smirnov test was used, Pearson was performed using SPSS version 22. The results showed that the use of technology and administrative automation has a significant positive effect on the quality of working life of employees in the General Directorate of Youth and Sports in Kermanshah province.

Keywords: technology, administrative automation, quality of working life, employees

INTRODUCTION
During recent years use and operation of office automation systems has been prevalent in our country and so many organizations are willing to utilizing and use of these systems and they are ready to spend huge amounts for the establishment and use of these systems. Office automation is mechanism that for the purpose of improving the efficiency the organization through applying effective management and applying the activities of the organization by using electronic circulation of organizational correspondence, easy searching of the stored information, Rapid and timely response to clients, Removing paper from office correspondence cycle, appropriate control over the users, Registration and maintenance of optimal information and improve communication within the organization. And it is responsible for creating internal communications and also people of the organization with outside of the organization. Automation information system can support employees to achieve their goals (Ranji, Jifroodi, 2008). Office automation includes all formal and informal electronic systems which relates to communicate information between peoples inside and outside of the organization (Rahimi kia, 2010) and is one of the factors that can play an important role of increasing productivity and performance (Jahanbakhsi, 2009). a research which has done by Mohseni indicated that all factors such as quick and easy access to data, Establishing uniformity in all matters, speed in doing works, accuracy and precision of operation have influenced on employee performance. As a result automation leads to increase Employee performance (Mohseni, 2006), Kay, 2004 states in a research under the title: "Study and design of automation systems" the University of California
recently automation designing becomes more and more in order to optimization strategies and different administrative levels in cost saving, manpower and time. Automation facilitate doing service affairs and increases productivity. The automation process requires preparing and instructions and system activity diagrams. Automation system design is based on the behavior and performance of the system and different structural process performed according to that (Kay, 2004). Sheikh Baklo et al (2012) examined the effects of office automation on the efficiency in their research and results indicated that office automation has impacts on the efficient use of time response to the customers and accuracy in doing things and resulted to increasing efficiency. Sharifzadeh in his research with the title of Analysis of the relationship between the extent of automation and organizational effectiveness indicated that by increasing the extent of automation the efficiency will be increased. And the difference is significant between the two organizations with the same degree of automation. This means that in the organizations that have type automation degree is not observed a significant difference in terms of performance. Well as by increasing degree of automation extent, increases employee satisfaction. Sarafizadeh and Alipour (2009) in a research examined the effect of office automation on productivity of human resources and indicated that the implementation of office automation on factors such as efficiency, effectiveness and productivity in the field of human resources has a direct impact yet the extent of effectiveness has not been impressive. As well as the development of office automation is enough newly that there was no enough time for the study and basic research about the results and its effects and we can say that this issue has analyzed very little. About the usefulness of office automation of the companies and offices many discussions has been proposed but most experts that for proving that issue had pay attention to economic and management dimension. In this regard, one of the most important goals of the network health and life quality improvement of their employees is increasing efficacy. In recent decades, psychologists considered the psychometric properties of the employees in the organizations. As experts in organizational behavior and human resources have particular attention to the human characteristics to take actions for increasing efficiency by identifying the variables (Mirzapour, 2010). Therefore, work life quality is a new sense of job satisfaction that has been considered by managers (Armaghan, 2012). Quality of Work Life is a comprehensive program that is dedicated to promoting employee satisfaction (Boojmehrani et al, 2012). Karaen 1997 defines work life quality and the complex interaction system components work with tasks, invoices and organizational factors, environment, tools, and technology. Dehnavi (2013) as a result of work life quality on a hand analyses the effective factors on the growth and development of the organizational and from the other hand offers strategies to increase employee productivity and organization(Armaghan,2012).

According to what was mentioned, a good quality of life for employees in an organization affects the efficiency and performance. Another factor that can play an important role in increasing productivity is information technology. Also, since the sports organizations such as Directorate of Sport and Youth is one of the organizations that its employees play a key role in it and the presence and importance of employees is more than before due to visiting athletes and the general public, and with regard to the use of information technology and its expansion to appear on sports organizations also need to automate the professional staff, and may also be increased. And since research and studies to the social and economic consequences of automation in the bright sports organizations, very little has been done. And statistics that accurately shows the usefulness of uselessness and psychological variables such as quality of life in the community and staff and staff has not been achieved. Therefore, this study aimed to investigate the effect of administrative automation and technology on the quality of work life in the General Directorate of Youth and Sports of Kermanshah Province.

MATERIAL AND METHODS
This research is descriptive-correlation method that has been conducted as a field study. The statistic population was the General Directorate of Youth and Sports in Kermanshah province which their number was 125. Morgan table was used to determine sample sizes of 95 patients were randomly selected to participate. To collect data, a questionnaire Adel automation (2008), and the quality of working life and Walton (1973) were used. Validity was confirmed by experts. Reliability of questionnaires were obtained $\alpha = 0.92$ for administrative automation and $\alpha = 0.76$ for quality of
working life by Cronbach alpha. To analyze the data, the Kolmogorov-Smirnov test was used, Pearson was performed using SPSS version 22.

**RESULTS**

or the normal statistical distribution of data, i.e., whether data variables follow the normal statistical distribution or not, non-parametric Kolmogorov-Smirnov test is used to determine the nature of variable data. Parametric or non-parametric tests (tests free distribution) is used for the analysis. Kolmogorov-Smirnov test results to fit a normal distribution in Table 1, below. Assumptions for the Kolmogorov-Smirnov test are as follows.

Table 1: result of Kolmogorov-Smirnov test

<table>
<thead>
<tr>
<th>variable</th>
<th>Z</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT and Office automation</td>
<td>1.353</td>
<td>0.058</td>
</tr>
<tr>
<td>Life Quality Work</td>
<td>0.988</td>
<td>0.301</td>
</tr>
<tr>
<td>Reaching to goal</td>
<td>0.961</td>
<td>0.359</td>
</tr>
<tr>
<td>Decision making quality</td>
<td>0.878</td>
<td>0.399</td>
</tr>
<tr>
<td>Quality of analyzing data</td>
<td>1.571</td>
<td>0.067</td>
</tr>
<tr>
<td>Entering new ideas</td>
<td>1.421</td>
<td>0.058</td>
</tr>
<tr>
<td>Answering quality</td>
<td>1.035</td>
<td>0.124</td>
</tr>
<tr>
<td>Modification of business processes</td>
<td>0.919</td>
<td>0.310</td>
</tr>
</tbody>
</table>

According to Table 1, the test results show that the distribution of the data obtained to normal. As a result, there is the possibility of using parametric tests. To evaluate the significance of these tests hypotheses, Pearson and regression are used. Normal and other variable data Pearson test is abnormal. Pearson test result is shown in Table 2.

Table 2: result of Pearson test

<table>
<thead>
<tr>
<th>independent variable</th>
<th>dependent variable</th>
<th>R</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT and Office automation</td>
<td>Life Quality Work</td>
<td>760.0</td>
<td>000.0</td>
</tr>
<tr>
<td>IT and Office automation</td>
<td>Reaching to goal</td>
<td>835.0</td>
<td>000.0</td>
</tr>
<tr>
<td>IT and Office automation</td>
<td>Decision making quality</td>
<td>644.0</td>
<td>000.0</td>
</tr>
<tr>
<td>IT and Office automation</td>
<td>Quality of analyzing data</td>
<td>697.0</td>
<td>000.0</td>
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<td>IT and Office automation</td>
<td>Entering new ideas</td>
<td>793.0</td>
<td>000.0</td>
</tr>
<tr>
<td>IT and Office automation</td>
<td>Answering quality</td>
<td>313.0</td>
<td>008.0</td>
</tr>
<tr>
<td>IT and Office automation</td>
<td>Modification of business processes</td>
<td>453.0</td>
<td>001.0</td>
</tr>
</tbody>
</table>

The results showed that the use of technology and administrative automation has a significant positive effect on the quality of working life of employees in the General Directorate of Youth and Sports in Kermanshah province.

**DISCUSSION AND CONCLUSION**

Result show that there is a significant positive correlation between information technology and automation and all its dimensions and the quality of life in Youth and Sports in Kermanshah province. Above results is to some extent is in consist with findings of Hasanzade (2005), Mosavi and Norozi (2009), Rahimi kya et al (2010), Lovnete Pieto (2004). Sarrafzadeh and Alipur (2009) in a research examined the office automation application on the productivity of human resources and indicated that applying office automation had direct impact on the factors such as the efficiency, effectiveness and productivity in the human resources field but the amount of impact has not been impressive. Sharifzadeh in his research indicated that by increasing the extent of Automation staff satisfaction increases. Today automation causes that shape of doing things be the same and prevented the
difference between the different tastes in doing things, interpretation of the Rules and Regulations. In other words consistency is obtained in doing affairs that causes to increase performance of employees. Office automation system is responsible for creating internal communications of the organizations and also the employees of the organization with peoples outside of the organization this connection helps improve coordination of activities and qualitatively of works that this in turn causes to increase satisfaction of people and thus improves the quality of life of persons. Quality of life as a goal provides improvement of organizational performance through creating more challenging jobs and working environments in all levels of organization. Therefore, according to the results of the efficiency and quality of automation and its dimensions such as reaching the goal, the quality of decision-making, the quality of data analysis, and entry of new ideas, accountability and reform business processes run better health and higher sport organization causes to increasing quality of staff’s life. Thus considering this fact is necessary for authorities and sport managers. An organization that their employees that are in desirable and good state in terms of work life quality and considering internal and external demands and its office automation is high and working group members, trusted group, coordination, and cooperation be necessary consequently increases quality of work life the employees of the organization. We can say that Youth and Sports in Kermanshah province due to using computer and electronically tools have more independence for their employees. And this independence of working increases their satisfaction. While the variety of work increases since technologic tools decreases a lot of unnecessary and repetitive tasks of people. Therefore, due to the influence and role of automation on the quality of work life of employees open fields and infrastructures is provided in the Youth and Sports in Kermanshah province so that the medical system increasingly placed in the path of growth and development. And by using the specialized and dominant staffs of automation and information technology provide the applying fields for it in the work condition and creating motivation in the staffs so that causes to increase job satisfaction and consequently improvement the life quality of employees.

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STUDY OF PROBLEMS AND DISORDERS IN DENTAL CLINICS
ARCHITECTURAL DESIGN

Mojhgan Pasaeian
Master of Architecture, Art and Architecture of Islamic Azad University Central Tehran Branch, Iran
mojipasa@hotmail.com

Dr. Mohammad Saeidi
Assistant Professor of Anesthesiology, Qom University of Medical Sciences, Iran
dr.msaedi@hotmail.com

ABSTRACT
Hasty process, outlawed development and principles of architecture of dental clinics in most cities, has changed the situation in such a way that the dental clinics, special new build clinics they are new physical and aesthetic architecture have been significant problems in dental clinic cannot give material and physical needs of peoples the answer them dignity and also cannot have a sense of relaxation in a space of their spiritual needs and embrace. In this paper, by examining the validity of the staff and patients of dental clinics we explain and we will prove that the challenges of architecture and planning in the design of dental clinics in Tehran and other big cities as the model cases that compliance with them, a consideration of the dignity of patients and staff of dental clinics in mental peace be maintained as well as the proper use of science and new development.

Keywords: architecture, dentistry, clinic, design, Tehran

INTRODUCTION
Like most arts and skills in human society, architecture is also formed on the basis of specific principles and values. These principles and values originate from way of thinking and cultural values governing the society and at the same time, they are influenced by environmental and climatic conditions, economic conditions, political and other issues. Hasty process, development outside the standards and indifference to the principles of architecture have caused a profound change in dental clinics in most cities of the country. In these circumstances, these clinics, in particular the newly built clinics, are suffering from significant problems in terms of aesthetic and physical characteristics, so that they cannot respond to the physical and material needs and do not have a peaceful and comfortable atmosphere for patients. In this article, we will examine the challenges and problems of architecture and planning in the design of dental clinics in Tehran, which is one of the challenges of the healthcare system. Then, the patterns are provided by which the dignity of patients and staff will be retained in the dental clinic and science and new developments also be used.

METHOD
After reviewing the articles and original research and interviews with staff and patients in the dental clinic, a questionnaire with ten questions below was designed:

1. Does the architectural design of the entrance and lobby give the sense of presence in a dental clinic?
2. Does the architectural design of secretarial service, waiting room and cashier is suitable?
3. Does the architecture design of waiting space is suitable?
4. Does the architectural design of dentist's workroom is suitable?
5. Does the radiology space is suitable?
6. Do the administrative and support spaces are suitable?
7. Do the commercial spaces professionally designed?
8. Does the entertainment place for children is suitable?
9. Does the lighting is suitable?
10. Is there adequate ventilation due to the bad smell of the dentistry materials?
And the responses were divided by the four following options:
Yes, it is good - average - no, it is poor - No comment
Ten dental clinics in different districts of Tehran were selected for the survey and a total of one hundred staff and one hundred patients in dental clinics responded to questions.

DATA ANALYSIS METHOD
The obtained data were analyzed using SPSS 13. The quantitative data are shown as the average and standard deviation and the qualitative data are shown as the frequency. Chi-square test, and quantitative variables of t-test was used to compare both qualitative and quantitative data between the two groups in case of following the normal distribution. And the equivalent nonparametric tests were used in case of non-compliance with the normal distribution. The level of significance was set at 0.05.

HOW TO COMPLY ETHICAL ISSUES:
1. Explain the objectives of the plan
2. Hiding the name and location of respondents
3. Compliance with design partners material and intellectual rights

RESULTS
A total of 200 patients, 100 patients and 100 staff, completed the questionnaire.

<table>
<thead>
<tr>
<th>Questions</th>
<th>Yes, it is good</th>
<th>average</th>
<th>no, it is poor</th>
<th>No comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does the architectural design of the entrance and lobby give the sense</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of presence in a dental clinic?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Does the architectural design of secretarial service, waiting room</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and cashier is suitable?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Does the architecture design of waiting space is suitable?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Does the architectural design of dentist's workroom is suitable?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Does the radiology space is suitable?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Do the administrative and support spaces are suitable?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Do the commercial spaces professionally designed?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Does the entertainment place for children is suitable?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Does the lighting is suitable?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Is there adequate ventilation due to the bad smell of the dentistry</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>materials?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The age distribution of respondents is given in Table 1. As can be seen, the two groups were similar in terms of age distribution and there isn't any significant difference between the two groups (p=0.423).

<table>
<thead>
<tr>
<th>Table 1. The age distribution of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean ± standard deviation (Year)</td>
</tr>
<tr>
<td>Staff</td>
</tr>
<tr>
<td>Patients</td>
</tr>
</tbody>
</table>
The age distribution of respondents is also given in Table 2 and there isn't any significant difference between the two groups (p=0.988).

**Table 2.** The age distribution of respondents

<table>
<thead>
<tr>
<th></th>
<th>Man</th>
<th>Woman</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td>52  (50%)</td>
<td>48    (50%)</td>
<td>0.988</td>
</tr>
<tr>
<td>Patients</td>
<td>53  (50%)</td>
<td>48    (50%)</td>
<td></td>
</tr>
</tbody>
</table>

The results of the questionnaire presented separately in Tables 3 to 12.

**Table 3** along with chart: "does the architectural design of the entrance and lobby give the sense of presence in a dental clinic?"

<table>
<thead>
<tr>
<th>Number of responses</th>
<th>Yes, it is good</th>
<th>Average</th>
<th>No, it is poor</th>
<th>No comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff</td>
<td>14</td>
<td>25</td>
<td>54</td>
<td>7</td>
</tr>
<tr>
<td>Patient</td>
<td>11</td>
<td>26</td>
<td>61</td>
<td>2</td>
</tr>
<tr>
<td>total</td>
<td>25</td>
<td>51</td>
<td>115</td>
<td>9</td>
</tr>
<tr>
<td>Final percent</td>
<td>%5.12</td>
<td>%5.25</td>
<td>%5.57</td>
<td>%5.4</td>
</tr>
</tbody>
</table>
Table 4 along with chart: "does the architectural design of secretarial service, waiting room and cashier is suitable?"

<table>
<thead>
<tr>
<th>Description</th>
<th>Yes, it is good</th>
<th>Average</th>
<th>No, it is poor</th>
<th>No comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td>10</td>
<td>22</td>
<td>63</td>
<td>5</td>
</tr>
<tr>
<td>Patient</td>
<td>8</td>
<td>34</td>
<td>57</td>
<td>1</td>
</tr>
<tr>
<td>total</td>
<td>18</td>
<td>56</td>
<td>120</td>
<td>6</td>
</tr>
<tr>
<td>Final percent</td>
<td>%9</td>
<td>%28</td>
<td>%60</td>
<td>%3</td>
</tr>
</tbody>
</table>

![Chart showing responses to architectural design survey](chart.png)
Table 5 along with chart: "does the architecture design of waiting space is suitable?"

<table>
<thead>
<tr>
<th>Description</th>
<th>Yes, it is good</th>
<th>Average</th>
<th>No, it is poor</th>
<th>No comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td>15</td>
<td>28</td>
<td>54</td>
<td>3</td>
</tr>
<tr>
<td>Patient</td>
<td>8</td>
<td>33</td>
<td>59</td>
<td>0</td>
</tr>
<tr>
<td>total</td>
<td>23</td>
<td>61</td>
<td>113</td>
<td>3</td>
</tr>
<tr>
<td>Final percent</td>
<td>%5.11</td>
<td>%5.30</td>
<td>%5.56</td>
<td>%5.1</td>
</tr>
</tbody>
</table>
Table 6 along with chart: "does the architectural design of dentist's workroom is suitable??"

<table>
<thead>
<tr>
<th>Description</th>
<th>Yes, it is good</th>
<th>Average</th>
<th>No, it is poor</th>
<th>No comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td>54</td>
<td>33</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>Patient</td>
<td>67</td>
<td>25</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>total</td>
<td>115</td>
<td>58</td>
<td>25</td>
<td>2</td>
</tr>
<tr>
<td>Final percent</td>
<td>%5.57</td>
<td>%24</td>
<td>%5.12</td>
<td>%1</td>
</tr>
</tbody>
</table>

![Chart showing responses to architectural design suitability](chart.png)
Table 7 along with chart: "does the radiology space is suitable?"

<table>
<thead>
<tr>
<th>Description</th>
<th>Yes, it is good</th>
<th>Average</th>
<th>No, it is poor</th>
<th>No comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td>9</td>
<td>47</td>
<td>42</td>
<td>2</td>
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<tr>
<td>Patient</td>
<td>5</td>
<td>20</td>
<td>63</td>
<td>12</td>
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<tr>
<td>total</td>
<td>14</td>
<td>67</td>
<td>105</td>
<td>14</td>
</tr>
<tr>
<td>Final percent</td>
<td>%7</td>
<td>%33.5</td>
<td>%52.5</td>
<td>%7</td>
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</tbody>
</table>

![Chart showing responses to the question: does the radiology space is suitable?](chart.png)
Table 8 along with chart: "do the administrative and support spaces are suitable?"

<table>
<thead>
<tr>
<th>Description</th>
<th>Yes, it is good</th>
<th>Average</th>
<th>No, it is poor</th>
<th>No comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td>29</td>
<td>49</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>Patient</td>
<td>23</td>
<td>42</td>
<td>22</td>
<td>13</td>
</tr>
<tr>
<td>total</td>
<td>52</td>
<td>91</td>
<td>40</td>
<td>17</td>
</tr>
<tr>
<td>Final percent</td>
<td>%26</td>
<td>%40.5</td>
<td>%20</td>
<td>%8.5</td>
</tr>
</tbody>
</table>

![Bar chart showing responses](chart.png)
Table 9 along with chart: "do the commercial spaces professionally designed?"

<table>
<thead>
<tr>
<th>Description</th>
<th>Yes, it is good</th>
<th>Average</th>
<th>No, it is poor</th>
<th>No comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td>34</td>
<td>31</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>Patient</td>
<td>26</td>
<td>41</td>
<td>23</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>72</td>
<td>53</td>
<td>15</td>
</tr>
<tr>
<td>Final percent</td>
<td>%30</td>
<td>%36</td>
<td>%26.5</td>
<td>%7.5</td>
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</table>
Table 10 along with chart: "does the entertainment place for children is suitable?"

<table>
<thead>
<tr>
<th>Description</th>
<th>Yes, it is good</th>
<th>Average</th>
<th>No, it is poor</th>
<th>No comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td>4</td>
<td>30</td>
<td>58</td>
<td>8</td>
</tr>
<tr>
<td>Patient</td>
<td>1</td>
<td>19</td>
<td>57</td>
<td>23</td>
</tr>
<tr>
<td>total</td>
<td>5</td>
<td>49</td>
<td>115</td>
<td>31</td>
</tr>
<tr>
<td>Final percent</td>
<td>%2.5</td>
<td>%24.5</td>
<td>%57.5</td>
<td>%15.5</td>
</tr>
</tbody>
</table>
Table 11 along with chart: "does the lighting is suitable?"

<table>
<thead>
<tr>
<th>Description</th>
<th>Yes, it is good</th>
<th>Average</th>
<th>No, it is poor</th>
<th>No comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td>21</td>
<td>48</td>
<td>28</td>
<td>3</td>
</tr>
<tr>
<td>Patient</td>
<td>36</td>
<td>43</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
<td>91</td>
<td>44</td>
<td>8</td>
</tr>
<tr>
<td>Final percent</td>
<td>%28.5</td>
<td>%40.5</td>
<td>%22</td>
<td>%4</td>
</tr>
</tbody>
</table>
Table 12 along with chart: "Is there adequate ventilation due to the bad smell of the dentistry materials?"

<table>
<thead>
<tr>
<th>Description</th>
<th>Yes, it is good</th>
<th>Average</th>
<th>No, it is poor</th>
<th>No comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff</td>
<td>17</td>
<td>32</td>
<td>49</td>
<td>2</td>
</tr>
<tr>
<td>Patient</td>
<td>18</td>
<td>13</td>
<td>68</td>
<td>1</td>
</tr>
<tr>
<td>total</td>
<td>35</td>
<td>45</td>
<td>117</td>
<td>3</td>
</tr>
<tr>
<td>Final percent</td>
<td>%17.5</td>
<td>%22.5</td>
<td>%58.5</td>
<td>%5.1</td>
</tr>
</tbody>
</table>
DESCRIPTION
After reviewing the questionnaires that were completed by staff and patients, it was observed that, in most cases, there is dissatisfaction with the architectural design and physical spaces which are as follows:

1. The entrance and lobby does not make any sense of presence in a dental clinic.
2. The secretary and the queue systems and cashier are stereotypes.
3. The public waiting room space and each sector do not have a role in reducing stress and relaxing the patients.
4. Workroom of dentists in most clinics is very horrific and inappropriate.
5. The radiology space is an unprofessional space and often placed in the corner of warehouse.
6. Administrative and support spaces are not designed properly.
7. Commercial spaces were not designed for professionals.
8. There isn't any place to play and entertain children.
9. There is no relaxing lighting.
10. There is no proper ventilation due to the bad smell of dental materials.

In a time when everyone acknowledges the fierce competition between dental clinics. Undoubtedly, patients would choose a dentist that is comfortable and more relaxed. To be sure, there are some chairs and a few tables for relatives and patient himself in any dental clinic. But does any dental center can be considered a center with proper waiting room?

Costs related to the construction of a dental clinic is very high. Therefore, project management and design in a complex is essential. Minimizing the project costs and staff should be a priority. Design project would include intensive consultation with customers, dentists, engineers, architects, designers and medical experts during an early stage in order to eliminate the risk of unfavorable investment decisions and unwanted increase in operation costs. The importance of collaboration between architects, engineers, managers and technicians cannot be overemphasized. After designing the entire project, interior design for a dental clinic must be designed and a place fit for service, systems engineering and medical equipment to be considered.

Throughout history, architecture and urban planning have played a significant role in social life of citizens and human beings always tried to dominate the environment in order to achieve peace and stability. However, such a domination do not exist in dental clinics; and there is an incision and separation between spaces and, therefore, sense of belonging to space and place has been lost. Now if the psychological security of staff and patients in a dental clinics be considered as one of the fundamental aspects of architecture and how to make a dental clinic, we find that the role of architectural design in today's dental clinics is suffering from confusion, chaos and turmoil.

If dental clinics are willing to change, this change must be initiated with universities, dental schools and dental education system. Dental Clinic is a medical center that specializes in multiple disciplines of dental hygiene. Specialization among dentists has paved the way for the creation of therapeutic and diagnostic centers that provide extensive services. The advantage of this center is to reduce patient wait times and better access to diagnosis and treatment, without visiting a doctor. The advantage of the centers for dentist is allocation of more regular working hours and the ability to exchange and benefit from the experiences of other dentists.

The items listed require a suitable space that is designed according to the needs of the consumer. Appropriate size and arrangement of spaces would be a great help to meet the needs of clients. The design of such projects requires intensive consultation with customers, dentists, engineers, and experts in hospitals and clinics, and therefore, it would not be unusual, if the design take a lot of time.

Before designing any materials should be considered characteristics. If you just say "dental centers due to their nature and theme must have a special atmosphere for ideal performance of dentists", we're talking incomplete. In fact, the atmosphere of a dental center is not simply a place a container with the possibility of specific functions for dentists and its design is not limited by the equipment, furniture and dentists functions among several walls. In a perfect design, creating a favorable and efficient
environment is a multiple interactive between the constituent elements of a space, which mean the people and objects that are associated with the space and the function that is intended for that space. Each generate several different parameters in its proper shape. From this perspective, the features of a dental clinic are as follows:

- A safe, beautiful and clean building.
- Innovative and exciting environment, and open to patients and staff.
- Flexibility in the face of future changes in physical relationships, materials, equipment over time and in accordance with international standards.
- Competitiveness in energy efficiency (particular attention to the choice of materials and heating and cooling systems and lighting).
- Easy physical accessibility for people with disabilities.
- Ability to meet the physical and spiritual needs of patients.
- Quick and easy access to urban street networks and public transport.

You may have heard that a dentist in Berlin was able to turn his clinic into the happiest place on earth. In this clinic, patients forget their fear of pain and can even be entertained. The waiting room is designed by orange color, beautiful seats, eye-catching paintings and a lovely fireplace. In the time spent in the waiting room, patients can use the Internet, rather than thinking about their pain and stress and they can be entertained by various video games. Medical staff spend many hours at the clinic, so interior design is very important to create a happy mood for them and patients. Patients usually spend some time on the dental unit, so the design can be effective in their assessment about the clinic environment. Moreover, the interior design will be effective in maintaining a happy mood and reduce fatigue and boredom of long work in a closed environment.

**DESIGN PRINCIPLES OF DENTAL CLINIC**

In general, dental clinic spaces are divided into four sections including client space, office space, the main space and logistics and support.

**A. Clients spaces:**
1. Entrance
2. Patient waiting
3. Children waiting
4. Health facilities

**B. - Office space:**
1. Reception
2. Office rooms (generic)
3. Archive
4. Dentist office
5. Educational space

**C. The main space**
1. Adult dental clinic
2. Orthodontic dental clinic
3. Periodontics dental clinic
4. Endo dental clinic
5. Restorative dental clinic
6. Prosthetic dental clinic
7. Oral and Maxillofacial Surgery Clinic
8. Operating room for Oral and Maxillofacial Surgery equipped with anesthesia facilities
9. The pediatric dental clinic
10 pediatric dental operating room equipped with anesthesia
11. Recovery
12. The sector for sterilization
13. Laboratory
14. Radiology

D. Logistics and support:
1. Break room and kitchen
2. Compartments for cleaning textile
3. The health facility for staff
4. Public Storage
5. Storage for grinding up waste
6. Installations
7. Cleaning room
8. A place for unloading the goods

Apart from client's spaces, all rooms must be in a safe area (away from any pollution). These spaces are not limited to large clinics and all dental clinics must have such areas in an appropriate scale. The number and type of clinic is determined according to the covered population and oral health care policies. The treatment room or space must be equipped with adequate and appropriate tools.

Diagnosis and treatment may be done in a room that is equipped with the dental unit. Sometimes, administrative tasks be done in the same space. However, these functions must be physically separated from the medical section. Depending on the design selected, by placing the administrative area along with partition, this space should have a capacity as much as a wheelchair or a stretcher.

When a treatment space is usable for all people, even people with disabilities, it can be said that architectural design has the perfect features. Inclusion of at least one enclosed office space helps to meet the special needs or anxiety in patients.

BORDER IN DESIGN

A. Single room
In designing a single room, all the services and equipment needed for are merged in order to perform diagnosis and treatment. Single room would be appropriated for when:
1. There are only two seats for welfare facilities
2. A dynamic space can promote quality design.
3. The dental clinic should create a private space between the dentist and the patient.
4. Carrying capacity for stretcher (for emergency patients during treatment or when the patient is experiencing cardiac arrest, etc.) or wheelchair is necessary.
5. Aspects of individual dental office is 16 square meters.

B. open plan
In this design, the type of branches and location of the room will be changed and the spaces be separated by some tall partitions. Administrators space located in the front end of each unit should be separated from the treatment section by cabinets and panels. Office space can be seen in the main axis and has access to both sides. Fixed furniture can create a visual barrier between private space of patient and public hallway. Shelves of public facilities and X-ray monitor can be seen in the hallway in order to provide services to both sides. The benefits of open plan offices include the following:
1. The spatial efficiency
2. Benefits in economic aspects (the use of common equipment)
3. Environment more suitable for teaching and monitoring of dental students
4. Convenient and easy access in order to collect dirty instruments for sterilization through main access to the internal circulation corridor.

However, in some cases, the open plan be applied in the design, but the separator partition do not use in the treatment spaces. In this case, the treatment environment loses its privacy; however, if the design has the right and proper dimensions, this space would be attractive and creative.
In the above design, the office space will be removed and the dentist should do such affairs in the therapeutic space. In addition, there should be a wheeled table (trolley) next to each unit. Remember that the dental unit should be placed in front of window and beautiful landscapes; otherwise, a beautiful painting should be used. In addition to physical therapy, the treatment space should provide space for the mental relaxation. The corridor width should not be less than 120 cm.

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<table>
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<th>average</th>
<th>no, it is poor</th>
<th>No comment</th>
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<tr>
<td>1. Does the architectural design of the entrance and lobby give the sense of presence in a dental clinic?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Does the architectural design of secretarial service, waiting room and cashier is suitable?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Does the architecture design of waiting space is suitable?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Does the architectural design of dentist's workroom is suitable?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Does the radiology space is suitable?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Do the administrative and support spaces are suitable?</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7. Do the commercial spaces professionally designed?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Does the entertainment place for children is suitable?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Does the lighting is suitable?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Is there adequate ventilation due to the bad smell of the dentistry materials?</td>
<td></td>
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</tr>
</tbody>
</table>
RANKINGS TAX AFFAIRS OFFICE OF THE EAST OF TEHRAN WITH THE TAX CAPACITY APPROACH USING TOPSIS METHOD

Somayeh Movahedy
Department of Communication Science, Tehran Shargh Branch, Islamic Azad University, Tehran, Iran

ABSTRACT
Taxation is the most important tool of the government's fiscal policy, which speeds up the process of economic growth, and constitutes one of the most major and most stable sources of income for governments. Comparison this source with other sources suggests that, whatever the contribution of taxes is more in provision of government expenditures, economic adverse effects are reduced, significantly. Accordingly, it is necessary to taxation problems, be analyzed by estimating the throughput and efficiency of the tax system, and practice, in order to overcome them, and to identify new ways of taxing, to reduce exist tax gap between tax revenues and tax capacity, by adopting the methods and measures. In the present study, as the regional study, is trying to rank Affairs tax Office of East of Tehran, by examining six factors influencing the actual capacity of tax, as amount of tax collecting, number of tax employees, etc, and testing their effectiveness with TOPSIS method, based on information from 2011, to evaluate the inter-organizational factors influence the capacity of the tax. In this study, researcher collected research data, without any kind of tampering, and with the help of interviews with tax experts, and visiting the tax affairs offices of East of the state. The results of the entropy technique, showed that the amount of collected taxes, with weight 0.2444, has the most importance, and the ratio of the number of records, compared with number of employees, with the weight of 0.0412, has the lowest importance among six identified indicators. Finally, it was determined that, among the tax Affairs Offices of East of Tehran, tax affairs office of Boomehen, with CA2*=0.7099, is the first, and tax affairs office of Pardis, with the CA1* =0.2493, is on the last place.

Keywords: Tax affairs office, tax actual capacity, weight indicators, entropy technique, TOPSIS Method

INTRODUCTION
Different economical systems define different definitions for the governments. The degree of governments' interference in affairs of some of the systems is low. In some of systems that is wonderful & in some of them is the middle. But the most important point is that the government need remarkable financial sources for the progress of given affairs, especially in defending & representing public services.

Economical needs of the government can be provided from different sources like taxes, selling wealth or primary mineral material effectiveness of the taxes system & determining taxation prices for different people of a society is one of the concerns of the governments & economical systems in the world, in a way which can cause the highest income by gaining the taxation capacity. taxation capacities is one of those concepts which is focused less, despite its importance in short time & long time planning & operational organizing & amendment methods.

In fact, the taxation capacity is the taxation volume that the society has the capability of affording it (or it can afford).

The taxation capacity also shows that how much a country or an area has tried in equipping taxation sources & also shows that how much it can increase these sources. The share of added value of the different economical parts in impure production is one of the important factors of determining taxation volume in an area as a result; the taxation capacity become higher, with more literacy share rate is also one of the other determining factors of taxation capacities in a society which call it as taxation culture.
The literacy & understanding & perception from taxes & paying philosophy in a society can have a direct relationship with taxation capacity. Some other effective variables such as the number of taxation stuff, collected tax rate, the number of delivered declaration forms inflation, rules, & etc, can also counted as other effective factors in taxation capacity.

General policy of the government in last year has been reliance decrease of the budget (specially the current budget) to the oil incomes & increasing the share of non-oily incomes specially taxation incomes by improving & amendment of system & taxation system. Because the taxation incomes have pretty less vacillations & also because it's accompanied by governments more responding in front of people & is considered as the cheapest source of financial providing of countries, so it can have a wide role & function in wealth adjustment & income, improving social & economical justice & prevention from income inequality, corroboration, by its further distribution & is accounted as one of the important & powerful in performing governments policies in facing with economical crisis's. on the basis of that, in current research it's tried to deal with rating of the taxation affairs of the offices in east of Tehran, by using tapis method in addition to considering effective inter-organizational factors on actual taxation capacity.

STATING THE PROBLEM
Any government needs financial equipments and sources for managing the society & performing its plans in order to do desirably those duties which are given to them by people. Taxation, as the most important & healthiest income sources of governments, has been under attention & consideration from the start of society forming of society & governments.

Nowadays economic experts in all countries know the taxation as the best source for providing government's prices. In some countries, such as Iran, because of availability to the replacing sources, do not pay attention to tax revenues. Such as oily incomes, they don’t pay attention to these taxation incomes as needed (Azimi, 1992). But these countries also pay attention to its important & fundamental role in budget structure & are searching for the quality of their taxation capacity increase. the importance of taxation incomes never hide from the eyes of policy makers in a way that, using the maximum taxation capacities, is being spoken as one of most important fundamental policy for decreasing the economical dependence of the country to oil incomes & providing the current costs of government by long term taxation incomes. In the third economical, social & cultural plan rule, article (59) permit's the government to create the taxation organization of the country as an governmental institute which is being controlled by the minister of financial & property affairs, in order to increase the effectiveness of taxation system & omit the present organizational obstacles & also to increase the focus on all of the affairs which are related to the grasping taxation. according to article (2) of the law of the fourth progress Islamic republic of Iran plan, government is to completely provide the costs of government by taxation in comes & other not oily incomes, until the end of this plan. In the plan of fifth progress (2011-2015), article (117) it's mentioned that, in order to completely stop the depending of the government's costs to the oil & gas incomes in a way which, the ratio taxes to the Inner impure production, reach at least to 10 percent.

According to a 20 year old outlook of the country, the government must be able to provide its present costs mostly from taxation in comes & decrease the dependence of this part to the oil incomes. taxes, in different countries of the countries constitutes a great part of general costs which government needs is provided by taxes, but in spite of governments much efforts, this number in Iran is not enough & has a lot of difference with the prevalent numbers of the world. In addition, about 32 percent of the Inner impure production of some countries is provided from taxation incomes, while this number is very low in Iran. (Elias Naderan, 2005).

With attention to the represented explanation, this question is aroused that: what are the effective inter-organizational factors on taxation capacity?
According to the proposed description, this question is posed that, what inter-enterprise factors influence on the tax capacity? To answer this question, and also clarify the controversial issue, we decided to analyze the problems in taxation through the estimation of the power and efficiency of the tax system, and with adoption policies and measures act in order to overcome them, and to identify new ways to tax, to reduce the tax gap, between the current tax revenues and tax capacity. The goal of this study is consideration the tax capacity of tax administrations of east of Tehran, and the inter-organizational factors affecting on it, and also investigate the mechanism of tax collection, and rank the Tax Office in East of Tehran, according to the definition of the actual tax capacity, and by introduced 6 indicators, and using TOPSIS methods (which are classified as multi-criteria decision making model (MADM)).

LITERATURE
The consideration of taxation capacity & its effective factors have been among interesting research subjects in developing countries, for a few decades. Primary researches in this field is done by Chilia (1971) & Chilia & others (1975) in international box of money.

1] Chilia (1971) in the consideration of tax making progress of developing countries along the period of 1953-1986 by the use of sectional data has focused on the calculation of taxation capacity in 50 developing countries. In this effort which is known as a base for next works; he considers the capitation income variables, non exporting capitation income, the share of mine part production in Inner impure production & the ratio of the non mineral exportation to the inner impure production, as the effective factors on taxation capacity. the dependent variable has been the taxation ratio of the countries and four patterns with the least ordinary squiral patterns (OLS) are done. the results show that the share of the mineral productions in inner impure production and the ratio of the exportation to the inner impure production, has been the most effective factors on taxation capacity in developing countries (Hanifi et al, 2014). the coefficient of the agricultural productions /share in inner impure production is negative and the other variables coefficient in models is in accordance with economical theories. Eventually the writer alarms that even if all the effective factors on taxation capacities have not been accounted by used variables. the comparison which is done according to taxation ratios is more accurate than the comparison according to current taxation ratios.

2] Chilia et al (1975) with the consideration of taxation ratios & taxation effort in developing countries during the period of 1969-1397, considered the taxation capacity in 47 developing countries. The results showed that the capitation income the added value of mineral parts & non mineral parts are the effective factors on taxation capacity in developing countries.

3] Alfirman (2003) has focused on the consideration of taxation capacities under the condition of non centrality in local governments of Indonesia. He has considered the taxation capacity of 26 Indonesian estates during 1996-1999. In this study the effective variables on taxation capacities include: literacy rate, the ratio of the shore of work power & ratio all the exportation & importation to the Inner impure production which have positive & meaningful effects & the share of the agricultural part from GDP which has a negative influence on taxation capacity.

4] Butel Hol (2010), in a research with the name" taxation effort & determining factors under Sahara desert "shoes that the quality of institutes & the income of sources are the powerful determining factors of taxation ratio. So if the countries improve the quality of their institutes, the can gain more taxation incomes from the sources. In most of the studies, the capitation income (GDP capitation) plays the main role & the effect of the business freeing is confirmed. this research also measures the taxation effort of the areas & shows that during (1990-2007) the countries under Sahara desert have acted lower than their potential taxation in other words they haven’t had a desirable function.

1. multiple Attribute Decision making
2. Ordinery Least Square
5] Ghani (2011) in his study focuses on the intra-country analysis of the taxation function with a special emphasis on the taxation effort of Pakistan, with the use of 104 panel data of the country during the period (1996-2005). Usually freeing capitation GDP\(^1\), suburban population, governing of the law & the control of corruption are determined as the determining factors of the taxation ratio among countries.

**ABSTRACT BASEMENT OF RESEARCH**

Different definition is represented in relation with taxation capacity. Taxation capacity shows the power of society in paying taxes & in fact this is the taxation volume which society can potentially pay it. In other words, taxation capacity is the taxation amount which people can by.

In Mehrregan & Pejman's (2005) opinion the taxation capacity is the maximum taxes that with attention to the income distribution level, its combination & the current laws in any country in a long term period are achievable.

Ghetmiri & Eslamlooian (2008) tells that what is understood from taxation capacity is the taxation amount which a country potentially is capable of receiving it in any period.

The taxation capacity is the amount of the capacity which a society can afford it with attention to the taxation fundamentals & this power depends on the incomes, consumes investments & also depends on the long term goals & short term & medium term planning (Manochehr Farhang; 1984- page 1274)

In fact the taxation fundamental is that taxes receiving bas. This base can be the income or added value, wealth or any other economical variable which is representative of citizens' ability in using public equipments that are presented by government.

Potential taxation capacity: there are different definitions for taxation capacity that in one of it's most complete ones, the potential taxation capacity is divided into two following parts (Abas Arab Mazar and Ayat Zayer, 2008)

1. The legal potential capacity (with dependence on the production and available taxation rules.

2. The economical potential capacity (with dependence on production and the rules of other countries)

The legal potential capacity of taxes is the amount of taxes which are gained in a country according to the rules.

The economical potential capacity of taxes in a country is defined as the potential ability of economy of that country in creating taxes, without paying attention to the taxation rules of that country with assuming the performances of the countries which are in a same group or they are same from economical aspect.

**Actual taxation capacity**

The actual taxation capacity includes all of the received taxation incomes (received taxations) in a country during a year (Manuchehr Farhang, 1984-page 1274). Or actual taxation capacity is amount of the taxes which are calculated with attention to the performance of the country during different years. (Musavi, Seyed yahya, 2008)

The taxation capacity of each region is related to the ability of the government in receiving taxes in addition to the affording rate among the people of a society.

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\(^1\) Gross Domestic Product
The factors which influence on country, s taxation capacity are not same; they change with passage of time and with changes that happen in economy. With this concentration different ideas are given about effective factors on taxation capacity. generally, the effective factors on taxation capacity can be summerised as below with separating out-organizational and in-organizational factors (Yegane Musavi Jahromi and Ayat Zayer, 2008)

Effective factors on taxation capacity:

*1. Out-organization factors effective factors on individuals & society's ability in paying taxes:
  1. 1; structural factors; different capitation income of economy situation of income large taxation
  1. 2; official factors: a perception toward the government sense of responsibility. Individual honesty taxation

*2. In-organization factors, effective factors on government's ability in collecting taxes:
  2. 1; structural factors: the structural factors; the structure of taxation; bases & costs
  2. 2; official factors; official organization, the way of its performance & its costs.

Factors affecting on ability of individuals and society, paying taxes, are determined by two, structural and voluntary factors. The most important structural factors, affecting the ability of people to pay taxes are per capita income, economic structure of society and the importance of different types of economic activities, and macroeconomic policy. Higher level of per capita income generally leads to higher levels of savings lower rates of illiteracy, a reasonable level of economic development, etc., in general, make the levy and
collection of taxes, easy. Thus, income per capita, due to its effects on the ability to pay the tax, is seen as the most important factor to determining the tax capacity.

The combination of the income and the amount of importance and width of economical activities are among effective factors on individual's ability in paying taxes; for example, the importance of agricultural part and the level to which this part can be put in to business in comparison with the level of it's livelihood influences oil incomes negatively. On the other hand, industrial and mineral productions and servicing activities are causers of wide taxation bases. Basically one of the greatest governmental income sources in developing countries is the situation of taxes on objects as taxes on exportation and importation. The huge economical policies can influence on the taxation income by real value of exchange cost, the rate of importation limitations, level of public debt, level of benefit costs, inflation rate and with using other policies. These factors are important in determining taxation level in a specific time and the way it changes during the time. In lots of cases, the remarkable changes in taxation level can be changed directly or indirectly in such these policies.

The effective official factors on the ability of society's individuals in paying taxes include: taxation culture of the society, the kind of public view toward taxation system, sense of responsibility and honesty of people in paying taxes and also citizen's ideas toward the government. (which itself can be influenced by the quality of public services and way of paying taxation incomes) totally the development of taxation cultures in society is one of the effective factors in paying taxes, in a way that individuals know the payment of taxes as their duty and a right understanding from government's duties in gaining a percent of society's national production and using it in providing public needs.

The ability of governments to collect taxes, in addition to structural factors, depends on many other administrative factors. In many developing countries, the low level of tax revenues is due to the lack of complete and accurate implementation of tax laws, which it often is due to inappropriate administrative systems and procedures for the detection and collection of the tax.

Inter-organizational effective factors on taxation capacity (actually)

According to the definition of taxation actual capacity, the effectiveness of the official system of recovery taxes and the taxation rules on the amount of tax taking of a country is effective, in this part of research we have focused on the recognition and introduction of determiner or effective factors on taxation capacity in the form of controlling factors on the ability of recovery taxes by government (inter-organizational factors). This group of factors (inter-organizational) often depends on the present rules and the official structure of the recovery taxes system. the ability of the government can be assessed by different indicators. Some of these indicators include: the budget of taxation affairs, the number of employers of performing units, the number of taxation declaration forms which are delivered by taxation determiners.

In this research, with attention to the available static equipments, 6 indicators: Recovered taxes, the number of taxation employers, the number of delivered declaration forms The number of files which include taxes, the ratio of taxation files to the number of taxation employers and the number of sent files to the problem solving groups as the determiner of the ability of the taxation recovery from government are being focused:

A: the recovered tax rate.

The numbers which are related to the recovered taxes in any region is a symbol of taxation capacity of this area. In addition to that the recovered taxes in any area shows its economical ability and it can be accounted as criteria for measuring the ability of recovery of taxes from related taxation affairs office. (Positive indicator or income)
B: the number of taxation employers

The recognition of income owners processes, the recognition and recovery of taxes in the country, because of their nature and taxation recovery operational systems are often done by reliance to the specialist human power.

So, providing the specialist man power for taxation offices and training them, increases the government's ability in recovering taxes. If with the increase in the number of taxation employers, the ratio of taxation determiners decreases, it causes each taxation employer to have more opportunity for checking and recovering taxes of each file. Generally, we can declare that there are direct connectors among other taxation employers, as an indicator of taxation recovery ability. (Positive indicator or income)

C: the number of taxation declarations:

The number of delivered declarations can also be considered from the aspects of ability and society's individuals' yen toward paying taxes and also from the aspect of the ability of receiving taxes by the governments.

D: the number of files which include taxes (non exempt)

The increase in the number of files which consists of taxation in a region is a symbol of industrial and economical activities which consists of taxation (because some of the activities, like agriculture are exempt from taxes), taxation capacity of taxation affairs offices, also will increase and there is a direct relationship between files which include taxes and taxation capacity. (Positive indicator or income)

By saying tax inclusive files, we mean non exempt files which consist of inclusive and non inclusive files.

E: the ratio of taxation files to the taxation employers.

If the ratio of the number of files (including all files, from inclusive and non inclusive and exempt files) to the taxation workers be lower, the taxation capacity will increase with attention to the fact that each taxation employer has more time for checking and recovering taxes for each file. This indicator has a negative relationship with the taxation capacity, in other words, if the ratio of taxation files to the taxation workers be low, the taxation capacity will increase (negative or cost indicator)

F: the number of sent files to the taxation problem solving groups.

It is possible that because of some reasons some differences will be made between the individuals' taxation tools and determined taxations by taxation affairs office, these differences in addition to the increase of disagreements, these people cause lengthen and procrastination in paying taxes, and governments' time are spent for solving those cases which eventually causes delay in taxation recovery and it will increase the recovery of costs. so if the number of sent files to the taxation problem solving groups would be lower, the taxation capacity will increase. so there is an opposite relationship among the number of sent files to the taxation problem solving groups and taxation capacity.

G: analysis of data

A: the discretional part of the research:

The determined indicators with attention to the collected data are considered in this part and the results are presented in the table on the basis of it's plenitude and percent:

_The recovered taxation (x₁):_
Recovered taxation is a positive indicator (+), the amount of recovered taxes of all of the sources includes taxation on company's incomes, jobs (A, B, C, line), heritage, automobile, tenement, (the income from renting properties and moving them) salary taxation, and also taxes on added value (includes taxes and imposition of added value +polluting imposition +taxes of moving automobile) which is represented in table number 1 by separating each taxation affairs office:

Table 1: Frequency distribution of tax affairs Office, according to the amount of collected tax in 2011

<table>
<thead>
<tr>
<th>Tax Administration</th>
<th>The amount of collected tax (X₁)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>pards</td>
<td>10284779476</td>
<td>2.5</td>
</tr>
<tr>
<td>Boomehen</td>
<td>118274963974</td>
<td>28.5</td>
</tr>
<tr>
<td>Roodehen</td>
<td>40182141453</td>
<td>9.7</td>
</tr>
<tr>
<td>Damavand</td>
<td>43534638735</td>
<td>10.5</td>
</tr>
<tr>
<td>Firoozkooh</td>
<td>39095916185</td>
<td>9.5</td>
</tr>
<tr>
<td>Value Added in the east of Tehran</td>
<td>162721108000</td>
<td>39.3</td>
</tr>
<tr>
<td>total</td>
<td>414093547823</td>
<td>100</td>
</tr>
</tbody>
</table>

_The number of taxation workers (X₂): the number of taxation workers is a positive (+) indicator. According to the results of the table number 2, the most plenitude is for Bumehen taxation affairs office.

Table 2: Frequency distribution of the Office of Tax Affairs of the study, based on the number of tax staff

<table>
<thead>
<tr>
<th>Tax Administration</th>
<th>Number of Tax Employees (X₂)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>pards</td>
<td>10</td>
<td>7.6</td>
</tr>
<tr>
<td>Boomehen</td>
<td>46</td>
<td>34.8</td>
</tr>
<tr>
<td>Roodehen</td>
<td>23</td>
<td>17.4</td>
</tr>
<tr>
<td>Damavand</td>
<td>22</td>
<td>16.7</td>
</tr>
<tr>
<td>Firoozkooh</td>
<td>17</td>
<td>12.9</td>
</tr>
<tr>
<td>Value Added in the east of Tehran</td>
<td>14</td>
<td>10.6</td>
</tr>
<tr>
<td>total</td>
<td>132</td>
<td>100</td>
</tr>
</tbody>
</table>

_The number of delivered declaration forms (X₃):

The number of delivered declaration forms is a positive (+) indicator

According to the results of the table number 3, the most plenitude is for Bumehen taxation affairs office and the least plenitude is for Pards taxation affairs office.

Table 3: Frequency of distribution of the Office of Tax Affairs studied in terms of number of delivered declaration forms

<table>
<thead>
<tr>
<th>Tax Administration</th>
<th>Number of delivered declaration forms (X₃)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>pards</td>
<td>1053</td>
<td>3.9</td>
</tr>
</tbody>
</table>
The number of the tax inclusive files $x_4$:

The number of the tax inclusive files is a positive (+) indicator.

According to the results of the table number 4, the most plenitude is for Bumehen taxation affairs office and the least plenitude is for Pardis taxation affairs office.

**Table 4:** Frequency distribution of the Office of State Tax assessed based on the number of the taxable cases

<table>
<thead>
<tr>
<th>Tax Administration</th>
<th>number of the tax inclusive files (X4)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>pards</td>
<td>1102</td>
<td>4.5</td>
</tr>
<tr>
<td>Boomehen</td>
<td>11134</td>
<td>45</td>
</tr>
<tr>
<td>Roodehen</td>
<td>2426</td>
<td>10</td>
</tr>
<tr>
<td>Damavand</td>
<td>5076</td>
<td>20.5</td>
</tr>
<tr>
<td>Firoozkooh</td>
<td>2801</td>
<td>11.3</td>
</tr>
<tr>
<td>Value Added in the east of Tehran</td>
<td>2156</td>
<td>8.7</td>
</tr>
<tr>
<td>total</td>
<td>24695</td>
<td>100</td>
</tr>
</tbody>
</table>

The ratio of taxation files to the number of taxation workers $x_5$:

The ratio of taxation files to the number of taxation workers is a negative (-) indicator. According to the results of the table number 5, the most plenitude is for Bumehen taxation affairs office and the least plenitude is for Roodehen taxation affairs office.

**Table 5:** Frequency distribution of the Office of Tax Affairs in the study, according to the tax records, to the number of tax staff

<table>
<thead>
<tr>
<th>Tax Administration</th>
<th>ratio of taxation files to the number of taxation workers (X5)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>pards</td>
<td>115</td>
<td>10.8</td>
</tr>
<tr>
<td>Boomehen</td>
<td>253.5</td>
<td>23.9</td>
</tr>
<tr>
<td>Roodehen</td>
<td>109.131</td>
<td>10.3</td>
</tr>
<tr>
<td>Damavand</td>
<td>238.045</td>
<td>22.4</td>
</tr>
<tr>
<td>Firoozkooh</td>
<td>174.179</td>
<td>16.5</td>
</tr>
<tr>
<td>Value Added in the east of Tehran</td>
<td>171.145</td>
<td>16.1</td>
</tr>
</tbody>
</table>
The number of sent files to the taxation problem solving groups ($x_0$):

The number of sent files to the taxation problem solving groups is a negative (-) indicator. According to the results of the table number 6, the most plenitude is for Bumehen taxation affairs office and the least plenitude is for Pardis taxation affairs office.

**Table 6**: Frequency distribution of the tax administrations of the study in terms of the number of cases submitted to the Board of Tax Dispute Resolution

<table>
<thead>
<tr>
<th>Tax Administration</th>
<th>number of sent files to the taxation problem solving groups ($X_0$)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pardis</td>
<td>63</td>
<td>4.2</td>
</tr>
<tr>
<td>Boomehen</td>
<td>509</td>
<td>34.2</td>
</tr>
<tr>
<td>Roodehen</td>
<td>192</td>
<td>13</td>
</tr>
<tr>
<td>Damavand</td>
<td>382</td>
<td>25.7</td>
</tr>
<tr>
<td>Firoozkooh</td>
<td>127</td>
<td>8.5</td>
</tr>
<tr>
<td>Value Added in the east of Tehran</td>
<td>214</td>
<td>14.4</td>
</tr>
<tr>
<td><strong>total</strong></td>
<td><strong>1487</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

B: stages of performing Tapsis method:

Tapsis method constitutes from below stages:

Step Zero: calculating determiner matrix:

In this method a kind of determination is assessed that includes the $m$ choose and $n$ indicator.

\[ x_{ij} \text{ is the indicator of } j \]

\[ x_{ij} \text{ is the amount of calculated number from } i \text{ choose and } j \text{ indicator.} \]

Non-scaling the determiner matrix step: this process omits the scales of the available scales in determiner matrix with the following equation.

First step: omit the scales of the determiner matrix
This process omits the scale of the available scales in determiner matrix with the following equation.

\[ r_{ij} = \frac{X_{ij}}{\sqrt{\sum_{i=1}^{m} X_{ij}^2}} \quad i, j = 1, 2, 3, \ldots, m,n \]

Second step: giving weight to the normalized matrix (calculation of tilting without scale matrix) a collection of weights that \( \sum w_j = 1 \) by using Shanon Antropy method or by DM for indicators is considered. And with multiplying j line of R matrix to related Wj weight, the weightful normalized determiner matrix is calculated. in this research, the weight of indicators is determined by Shanon Antropi Method.

\[ v_{ij} = w_j \times r_{ij}, \quad j = 1, 2, \ldots, n; i = 1, 2, \ldots, m, \]

Third step: determining the ideal positive and negative Solution we define two figurative selections (\( A^* \) the positive ideal selection) and (A the negative ideal selection), as below:

Two calculated figurative selections of \( A^* \) and \( A^- \) are accordingly the best and the worst solutions.

Positive ideal choice \[ A^* = \left\{ \max_{i,j} v_{ij} | j \in J \right\} \left\{ \min_{i,j} v_{ij} | j \in J \right\} = \{ v_{i1}^*, v_{i2}^*, \ldots, v_{iJ}^* \} \]

Negative ideal choice \[ A^- = \left\{ \min_{i,j} v_{ij} | j \in J \right\} \left\{ \max_{i,j} v_{ij} | j \in J \right\} = \{ v_{i1}^-, v_{i2}^-, \ldots, v_{iJ}^- \} \]

Related to Profit index \( j \mapsto J = \{ j = 1,2,3,\ldots,n \} \)

Related to cost index \( j \mapsto J' = \{ j = 1,2,3,\ldots,n \} \)

Fourth step: calculation of destination rate:
We can calculate the distance between selections by measuring the oghlidos distance in n dimensions space:

The distance of i choose is calculated from the following formula:

\[
S_{ij}^{+} = \sqrt{\sum_{j=1}^{n} (v_{ij} - v_{ij}^{+})^2} \quad i = 1,2,3,\cdots,m
\]

The distance of I choose from negative ideal solution is calculated from following formula.

\[
S_{i-}^{+} = \sqrt{\sum_{j=1}^{n} (v_{ij} - v_{ij}^{-})^2} \quad i = 1,2,3,\cdots,m
\]

Fifth step: the calculation of partial closeness to the positive ideal solution.

This criterion is calculated from the following formula.

\[
C_i^* = \frac{S_{i-}^+}{S_i^+ + S_i^-} \quad i = 1,2,\ldots,m \quad 0 < C_i^* < 1
\]

Sixth step: rating of chooses:

According to the ascending order of the \( C_i^* \), the rating of the taxation affairs office in east of Tehran estate was done according to the effective indicators on taxation capacity. The calculated results of the ratings of the taxation affairs office in east of Tehran is presented in table number 4-14 by Tapsis method.

**Table 7:** ratings of the Tax Office, of the East of Tehran, based on tax capacity-TOPSIS Method

<table>
<thead>
<tr>
<th>East Tax Office in Tehran</th>
<th>Rating</th>
<th>( C_i^* )</th>
<th>A-</th>
<th>A*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pardis Tax Affairs</td>
<td>6</td>
<td>0.2493</td>
<td>0.1</td>
<td>0.3011</td>
</tr>
<tr>
<td>Boomehen Tax affairs</td>
<td>1</td>
<td>0.7099</td>
<td>0.2748</td>
<td>0.1123</td>
</tr>
<tr>
<td>Roodehen Tax affairs</td>
<td>5</td>
<td>0.2561</td>
<td>0.0878</td>
<td>0.3049</td>
</tr>
<tr>
<td>Damavand Tax affairs</td>
<td>3</td>
<td>0.3231</td>
<td>0.1038</td>
<td>0.2175</td>
</tr>
<tr>
<td>Firoozkooh Tax affairs</td>
<td>4</td>
<td>0.2812</td>
<td>0.0988</td>
<td>0.2526</td>
</tr>
<tr>
<td>East of Tehran Value Added tax affairs</td>
<td>2</td>
<td>0.5209</td>
<td>0.2053</td>
<td>0.1888</td>
</tr>
</tbody>
</table>

The results of the Tapsis method shows that among taxation affairs office in east of Tehran, the Bumehen taxation affairs offices (with a \( C_i^*=0.7099 \)) has the first rate and the Pardis taxation affairs offices (with a \( C_i^*=0.2493 \)) has the 6th rate.

**RESEARCH RESULTS**

the research results according to the effective indicators on taxation capacity: the derived results of Entropy techniques (for calculating the weight of the indicators) shows that the importance of indicators according to the calculated weights accordingly are: the recovered taxes rate, the number of inclusive
files, the number of delivered declaration forms, the number of sent files to the taxation problem solving groups, the number of workers and the ratio of the number of files to the number of workers. We should pay attention that according to the differences of chooses from each indicators aspect, if chooses from indicator's aspect doesn't have much difference or sparseness, so the importance of that indicator is lower than the indicators which chooses from that aspect are more different or have more sparseness. or in other words we can say that the lower weight (the least $W_j$ with the most $E_j$) shows that the influence of indicator will be same for all of the selections and it's importance in decision making for selecting the choose is so low.

THE RESULTS OF RESEARCH ACCORDING TO DISTANCE AMOUNTS ($S_A$ AND $S_A^*$)

With attention to the calculation of positive ideal distance amount ($S_A^*$), the choose of Bumehentaxation affairs office ($A_2$) has the lowest distance & the Pardis taxation affairs office ($A_1$) has the most distance with positive ideal. with attention to the calculation of amounts of negative ideal amount ($S_A^*$) its determined that the selection of Bumehentaxation affairs office ($A_2$) has the most distance and the selection of Roodehen taxation affairs office ($A_3$) has the lowest distance with the negative ideal. Eventually, the rating of the taxation affairs offices in east of Tehran with paying attention to the effective indicators on actual taxation capacity and on the basis of tapsis method, includes accordingly as: Bumehentaxation affairs offices, taxation affairs of added value in east of Tehran, the taxation affairs office in Damavand, the taxation affairs office in Firoozkooh, taxation affairs office in Roodehen and taxation affairs office In Pardis.

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PRIORITIZATION OF ADMINISTRATIONS TO CONNECT TO THE INTERNAL NETWORK WITH A MULTIPLE CRITERIA DECISION MAKING APPROACH (CASE STUDY: INFORMATION TECHNOLOGY ADMINISTRATION OF IRAN)

Somayeh Movahedy
Department of Communication Science, Tehran Shargh Branch, Islamic Azad University, Tehran, Iran
M.A Student at Firoozkooh Azad University, and a Master of Tax
mahdi.mahdinia@yahoo.com

ABSTRACT
The internal network consists of communication substructures, governmental and nongovernmental developed data centers and software substructures that have been expanded across the nation. This network provides the required capacity for “maintenance and exchange of local information in the nation for electronic services development” and “access of internet” through nationwide bandwidth connecting bed for home users, businesses and executive administrations. This network integrates specialized, local and national networks in the country, consisting of two private and public sectors. The private sector is to connect and to exchange information and services between the executive administrations and private sector, providing the required services for general users. These two sectors join each other at such points as data centers. The problem of this research is the fact that since many national administrations have a number of access points and that all administrations must join this network within the next five years, and that identifying information technology indices such as existing points, connected to national headquarters and number of existing points, connected to provincial and city offices and number of existing and connected points of associated businesses for executive administrations of the nation is of great importance for materialization of an electronic government in the nation, in this research, we have been determined to prioritize the aforesaid factors and indices. The research method is of descriptive mathematical type and the technique used is TOPSIS. Moreover, the names of ministries have not been given herein this survey.

Keywords: National Information Network, TOPSIS and Connection Points

INTRODUCTION
Information technology is more extensive (and complicated) than computer science. This term replaced the terms of data processing and management information systems in the 1990s, which was very common in the 19760s and 1970s. Information technology usually implies all technologies that are applied in five areas of collection, saving, processing, transfer and display of data. Information technology knowledge and computer are different from each other. They have many items in common. If computer science is considered similar to mechanical engineering, information technology is like transportation. In transportation industry, automobiles, railways, airplanes and ships are available. All of these items are put forth by mechanical engineers. Meanwhile, in transportation industry, the issues associated with navigation management, traffic management, determination of transportation strategy at the levels of company, city and country. It does not directly correspond to mechanical engineering. However, information technology and communication (ICT), which is said as FAVA in Persian, is the most important notation in this field. Seyed Hamed Khosravani Shariati propounds another definition of information technology. As he says, information technology engineering is a combined knowledge of software engineering, industrial engineering and marketing with an analytical, commercial and narrow-sighted
approach toward modern information technologies. Having put forth this approach, he solved the gap between software designers, system analysts and target market. The problem of this research is the fact that in spite of many access points by national administrations and that all administrations must connect to this network, on the one hand and on the other hand, since identifying IT indices such as number of existing and connected points of the national headquarters, number of existing and connected points of provincial and city offices and number of existing and connected points of affiliated business is of great importance for realization of an electronic government, herein this research, we have been determined to prioritize state administrations in terms of the aforesaid elements and indices. The technique used for prioritization is multiple decision making and TOPSIS in particular.

INTERNAL NETWORK
An internal network consists of communication substructures, advanced governmental and nongovernmental data centers and software substructures that have been extended across the nation. This network provides the required capacity for “maintenance and safe exchange of local information in the nation for development of electronic services” and “access of internet” through nationwide bandwidth connection bed for home users, businesses and executive administrations. This network integrates specialized, local and national networks across the nation. It consists of two private and public sectors. The private sector is for communication and exchange of information and services of executive administrations and the public sector is for providing services for general users. These two sectors join each other at such points as data centers (sohrabi et al, 2015).

SHARE CENTER AND EXCHANGE OF INFORMATION
Share center and exchange of information among governmental administrations are commissioned as subdivision of this network. This center shall be launched upon approval and notification of the by-law for connection of executive administration and share of information among the said administrations. This center is similar to inter-bank acceleration network and is generated to share information among different administrations.

WHY INTERNAL NETWORK?
Generation and local development as a legal duty shall provide suitable substructure and required capacity for development of various applications of information technology in the nation. From among the characteristics of this network, one may point out provision of high speed accesses for all users. It consists of data centers as host of data of different types of application. In fact, internal network has notified all legal items for generating a uniform window, information systems and databases as an assigned duty to corresponding administrations and shall support them as substructure.
ANALYTICAL RESEARCH MODEL

Any field research requires a model indicating the variables and their interrelations in form of an appropriate analytical means.

**Figure:** The conceptual research model based on prioritization of connection of administrations to an internal network

**TOPSIS METHOD**

Now, in order to achieve the final rating, these different ratings are put in matrix and will be solved using figures and final rating of executive administrations shall be achieved.

Calculations

Furthermore, decision making and calculations matrixes performed on these matrixes shall be given.

Table 1: Matrix of Decision Making

<table>
<thead>
<tr>
<th>Index</th>
<th>National Existing points</th>
<th>National connected points</th>
<th>Provincial existing points</th>
<th>Provincial connected points</th>
<th>city existing points</th>
<th>City connected points</th>
<th>business existing points</th>
<th>Business connecting points</th>
</tr>
</thead>
</table>

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### TABLE OF WEIGHT OBTAINED FROM EACH ELITE FOR EIGHT CRITERIA

After we have obtained the importance of all eight criteria from eight elite, we develop table of weights of criteria. Thus, the surface of this table comprises elites and its column indicates existing criteria. At the end, using the average of weights obtained from each criterion, the weight of corresponding weight shall be achieved.

**Table 2**: The weights obtained from each elite for eight existing criteria

<table>
<thead>
<tr>
<th>Elite 1</th>
<th>Elite 2</th>
<th>Elite 3</th>
<th>Elite 4</th>
<th>Elite 5</th>
<th>Elite 6</th>
<th>Elite 7</th>
<th>Elite 8</th>
<th>Final weigh of criteri</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criterion</td>
<td>100</td>
<td>90</td>
<td>0.145</td>
<td>0.127</td>
<td>100</td>
<td>0.150</td>
<td>80</td>
<td>0.118</td>
</tr>
</tbody>
</table>

Total

<table>
<thead>
<tr>
<th>Administration A1</th>
<th>13</th>
<th>13</th>
<th>64</th>
<th>64</th>
<th>714</th>
<th>714</th>
<th>89309</th>
<th>39845</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration A2</td>
<td>84</td>
<td>81</td>
<td>131</td>
<td>69</td>
<td>0</td>
<td>0</td>
<td>78</td>
<td>78</td>
</tr>
<tr>
<td>Administration A3</td>
<td>7</td>
<td>0</td>
<td>30</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>9588</td>
<td>0</td>
</tr>
<tr>
<td>Administration A4</td>
<td>14</td>
<td>14</td>
<td>49</td>
<td>49</td>
<td>0</td>
<td>0</td>
<td>27000</td>
<td>9000</td>
</tr>
<tr>
<td>Administration A5</td>
<td>5</td>
<td>5</td>
<td>31</td>
<td>6</td>
<td>380</td>
<td>0</td>
<td>801</td>
<td>0</td>
</tr>
<tr>
<td>Administration A6</td>
<td>4</td>
<td>4</td>
<td>257</td>
<td>64</td>
<td>1408</td>
<td>214</td>
<td>1483</td>
<td>0</td>
</tr>
<tr>
<td>Administration A7</td>
<td>15</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>1107</td>
<td>666</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Administration A8</td>
<td>5</td>
<td>5</td>
<td>31</td>
<td>31</td>
<td>1378</td>
<td>1378</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Administration A9</td>
<td>5</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>911</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Administration A10</td>
<td>26</td>
<td>12</td>
<td>31</td>
<td>0</td>
<td>93</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Administration A11</td>
<td>30</td>
<td>16</td>
<td>31</td>
<td>30</td>
<td>337</td>
<td>291</td>
<td>100000</td>
<td>10000</td>
</tr>
<tr>
<td>Administration A12</td>
<td>29</td>
<td>24</td>
<td>290</td>
<td>252</td>
<td>1336</td>
<td>1050</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>Administration A13</td>
<td>12</td>
<td>11</td>
<td>89</td>
<td>79</td>
<td>1600</td>
<td>1354</td>
<td>941</td>
<td>904</td>
</tr>
<tr>
<td>Administration A14</td>
<td>1</td>
<td>0</td>
<td>31</td>
<td>0</td>
<td>361</td>
<td>0</td>
<td>20338</td>
<td>0</td>
</tr>
<tr>
<td>Administration A15</td>
<td>13</td>
<td>13</td>
<td>288</td>
<td>288</td>
<td>9244</td>
<td>9244</td>
<td>11578</td>
<td>11578</td>
</tr>
<tr>
<td>Total</td>
<td>263</td>
<td>218</td>
<td>1353</td>
<td>962</td>
<td>17958</td>
<td>14911</td>
<td>262045</td>
<td>71407</td>
</tr>
</tbody>
</table>
Criterion 2
<table>
<thead>
<tr>
<th>70 0.102</th>
<th>100 0.217</th>
<th>90 0.135</th>
<th>70 0.103</th>
<th>80 0.122</th>
<th>80 0.127</th>
<th>90 0.135</th>
<th>70 0.105</th>
<th>0.131</th>
</tr>
</thead>
</table>

Criterion 3
| 90 0.130 | 80 0.140 | 100 0.150 | 100 0.147 | 60 0.090 | 100 0.159 | 80 0.120 | 90 0.135 | 0.134 |

Criterion 4
| 100 0.145 | 70 0.098 | 90 0.135 | 90 0.133 | 50 0.076 | 80 0.127 | 90 0.135 | 60 0.090 | 0.118 |

Criterion 5
| 100 0.145 | 100 0.217 | 80 0.120 | 90 0.133 | 100 0.152 | 70 0.112 | 90 0.135 | 100 0.150 | 0.146 |

Criterion 6
| 60 0.087 | 100 0.217 | 80 0.120 | 80 0.118 | 90 0.137 | 80 0.127 | 70 0.105 | 90 0.135 | 0.131 |

Criterion 7
| 90 0.130 | 90 0.127 | 60 0.090 | 100 0.147 | 90 0.137 | 70 0.112 | 80 0.120 | 80 0.120 | 0.123 |

Criterion 8
| 80 0.163 | 80 0.140 | 70 0.105 | 70 0.103 | 100 0.152 | 60 0.096 | 70 0.105 | 100 0.150 | 0.127 |

Total 690 1 710 1 670 1 680 1 660 1 630 1 670 1 670 1 1 1

Descaling of the figures given in the table:

Since number of existing and connected points of central administrations in order of subdivisions is different in each criterion, we should descale the figures inside each column. For this purpose, we use soft Euclidean formulation.

**Table 3:** Descaling of the points of decision making matrix

<table>
<thead>
<tr>
<th>Index</th>
<th>National existing points</th>
<th>National connected points</th>
<th>Provincial existing points</th>
<th>Provincial connected points</th>
<th>City existing points</th>
<th>City connected points</th>
<th>Existing business points</th>
<th>Business connected points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration A1</td>
<td>0.80</td>
<td>0.88</td>
<td>1.74</td>
<td>2.06</td>
<td>5.33</td>
<td>5.85</td>
<td>174.46</td>
<td>149.11</td>
</tr>
<tr>
<td>Administration A2</td>
<td>5.18</td>
<td>5.49</td>
<td>3.56</td>
<td>2.22</td>
<td>0.00</td>
<td>0.00</td>
<td>0.15</td>
<td>0.29</td>
</tr>
<tr>
<td>Administration A3</td>
<td>0.43</td>
<td>0.00</td>
<td>0.82</td>
<td>0.97</td>
<td>0.00</td>
<td>0.00</td>
<td>18.73</td>
<td>0.00</td>
</tr>
<tr>
<td>Administration A4</td>
<td>0.86</td>
<td>0.95</td>
<td>1.33</td>
<td>1.58</td>
<td>0.00</td>
<td>0.00</td>
<td>52.74</td>
<td>33.68</td>
</tr>
<tr>
<td>Administration A5</td>
<td>0.31</td>
<td>0.34</td>
<td>0.84</td>
<td>0.19</td>
<td>2.84</td>
<td>0.00</td>
<td>1.56</td>
<td>0.00</td>
</tr>
<tr>
<td>Administration A6</td>
<td>0.25</td>
<td>0.27</td>
<td>6.99</td>
<td>2.06</td>
<td>10.51</td>
<td>1.75</td>
<td>2.90</td>
<td>0.00</td>
</tr>
</tbody>
</table>
Formation of normalized matrix of descaled weights

For normalization of weights, first, we should write down the weight of each criterion on top of each column.

**Table 4:** Table of multiplication of weight of each criterion by the column of the same criterion
Then, the weight of each criterion is written in all figures of corresponding column to the said criterion and develop the following table, which is normalized table of weights:

**Table 5: Normalized Table of Weights of each Criterion**

<table>
<thead>
<tr>
<th>Weights of criteria</th>
<th>0.137</th>
<th>0.131</th>
<th>0.134</th>
<th>0.118</th>
<th>0.146</th>
<th>0.131</th>
<th>0.123</th>
<th>0.127</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Existing points</td>
<td>0.11</td>
<td>0.12</td>
<td>0.23</td>
<td>0.24</td>
<td>0.78</td>
<td>0.77</td>
<td>21.46</td>
<td>18.94</td>
</tr>
<tr>
<td>National connected points</td>
<td>0.71</td>
<td>0.72</td>
<td>0.48</td>
<td>0.26</td>
<td>0.00</td>
<td>0.00</td>
<td>0.02</td>
<td>0.04</td>
</tr>
<tr>
<td>Provincial existing points</td>
<td>0.06</td>
<td>0.00</td>
<td>0.11</td>
<td>0.11</td>
<td>0.00</td>
<td>0.00</td>
<td>2.30</td>
<td>0.00</td>
</tr>
<tr>
<td>Provincial connected points</td>
<td>0.12</td>
<td>0.12</td>
<td>0.18</td>
<td>0.19</td>
<td>0.00</td>
<td>0.00</td>
<td>6.49</td>
<td>4.28</td>
</tr>
<tr>
<td>City existing points</td>
<td>0.04</td>
<td>0.04</td>
<td>0.11</td>
<td>0.02</td>
<td>0.41</td>
<td>0.00</td>
<td>0.19</td>
<td>0.00</td>
</tr>
<tr>
<td>City connected points</td>
<td>0.03</td>
<td>0.04</td>
<td>0.94</td>
<td>0.24</td>
<td>1.53</td>
<td>0.23</td>
<td>0.36</td>
<td>0.00</td>
</tr>
<tr>
<td>Business existing points</td>
<td>0.13</td>
<td>0.13</td>
<td>0.00</td>
<td>0.00</td>
<td>1.21</td>
<td>0.71</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Business connected points</td>
<td>0.04</td>
<td>0.04</td>
<td>0.11</td>
<td>0.12</td>
<td>1.50</td>
<td>1.48</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Administration A6</td>
<td>0.04</td>
<td>0.04</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.22</td>
<td>0.00</td>
</tr>
<tr>
<td>Administration A7</td>
<td>0.22</td>
<td>0.11</td>
<td>0.11</td>
<td>0.00</td>
<td>0.10</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Administration A8</td>
<td>0.25</td>
<td>0.14</td>
<td>0.11</td>
<td>0.11</td>
<td>0.37</td>
<td>0.31</td>
<td>24.03</td>
<td>4.75</td>
</tr>
<tr>
<td>Administration A9</td>
<td>0.25</td>
<td>0.21</td>
<td>1.06</td>
<td>0.96</td>
<td>1.46</td>
<td>1.13</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Administration A10</td>
<td>0.10</td>
<td>0.10</td>
<td>0.32</td>
<td>0.30</td>
<td>1.74</td>
<td>1.45</td>
<td>0.23</td>
<td>0.43</td>
</tr>
<tr>
<td>Administration A11</td>
<td>0.10</td>
<td>0.00</td>
<td>0.11</td>
<td>0.00</td>
<td>0.39</td>
<td>0.00</td>
<td>4.89</td>
<td>0.00</td>
</tr>
<tr>
<td>Administration A12</td>
<td>0.11</td>
<td>0.12</td>
<td>1.05</td>
<td>1.10</td>
<td>10.07</td>
<td>9.92</td>
<td>2.78</td>
<td>5.50</td>
</tr>
</tbody>
</table>
Identifying an ideal positive solution and an ideal negative solution

Now, we develop the table of positive and ideal negative solutions. For this purpose, we consider the corresponding criteria to existing points of administrations as negative nature (since it has cost nature), and the corresponding criteria to connected points as positive nature. Then, we develop the following table through ideal positive and ideal negative formula.

**Table 6: Ideal positive and ideal negative solution**

<table>
<thead>
<tr>
<th></th>
<th>National existing points</th>
<th>National connected points</th>
<th>Provincial existing points</th>
<th>Provincial connected points</th>
<th>City existing points</th>
<th>City connected points</th>
<th>Business existing points</th>
<th>Business connected points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>0.01</td>
<td>0.72</td>
<td>0.00</td>
<td>1.10</td>
<td>0.00</td>
<td>9.92</td>
<td>0.00</td>
<td>18.94</td>
</tr>
<tr>
<td>A−</td>
<td>0.71</td>
<td>0.00</td>
<td>1.06</td>
<td>0.00</td>
<td>1.74</td>
<td>0.00</td>
<td>24.03</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**DISTANCE CALCULATION**

Now that we have calculated the figures of the aforesaid table, we must calculate the distance between each option and ideal positive and ideal negative solution according to the formula for measurement of distances. The following results have been obtained:

\[
d*A1 = 23.37 \\
d*A2 = 21.38 \\
d*A3 = 21.53 \\
d*A4 = 18.88 \\
d*A5 = 21.42 \\
d*A6 = 21.38 \\
d*A7 = 21.13 \\
d*A8 = 20.82 \\
d*A9 = 21.42 \\
d*A10 = 21.41 \\
d*A11 = 29.53 \\
d*A12 = 20.96 \\
d*A13 = 20.45
\]
d*A14 = 21.97

d*A15 = 17.06

d*A = {d*A1, d*A2, d*A3, d*A4, d*A5, d*A6, d*A7, d*A8, d*A9, d*A10, d*A11, d*A12, d*A13, d*A14, d*A15}


d-A1 = 19.18

d-A2 = 24.09

d-A3 = 21.82

d-A4 = 18.17

d-A5 = 23.90

d-A6 = 23.68

d-A7 = 24.08

d-A8 = 24.10

d-A9 = 23.91

d-A10 = 24.11

d-A11 = 5.07

d-A12 = 24.08

d-A13 = 23.87

d-A14 = 19.22

d-A15 = 25.51


d-A = {19.18, 24.09, 21.82, 18.17, 23.90, 23.68, 24.08, 24.10, 23.91, 24.11, 5.07, 24.08, 23.87, 19.22, 25.51}

Relative closeness and calculation of final figures for prioritization of administrations
Table 7: Final Administrative Figures

<table>
<thead>
<tr>
<th>CA</th>
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<tr>
<td>CA1</td>
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<td>CA3</td>
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<td>CA4</td>
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<td>CA10</td>
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</tr>
<tr>
<td>CA15</td>
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</tbody>
</table>

Final step: Prioritization of Central National Administrations

Finally, sorting out the figures of the above table on ascending-descending basis, we prioritize the central administrations as follows:

Table 8: Prioritization of Central National Administrations

<table>
<thead>
<tr>
<th>Priority</th>
<th>Name of Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>2</td>
<td>A13</td>
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<tr>
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<td>A14</td>
</tr>
<tr>
<td>14</td>
<td>A1</td>
</tr>
<tr>
<td>15</td>
<td>A11</td>
</tr>
</tbody>
</table>
CONCLUSION
Relying on the fact that there are a number of the executive administrations across the nation and that it is not possible to connect all administrations to this network simultaneously and on parallel basis, it has been decided that first according an instruction notified to the central administrations stating that all administrations, general office and all departments across cities and counties as well as affiliated business to the data center should be connected to the corresponding ministry so that after finalization of specialized network connection of the respective administration, the required measures should be taken to connect the data center of the corresponding administration to share center. Thus, all central administrations shall be connected to this network.

As it has been mentioned earlier, considering connection of national central administrations to this network, no priority has been considered for order of connection of corresponding administrations. Thus, in this research, we have made up our mind to prioritize the administrations so that the said administrations shall be connected to this network based on the said prioritization. Consequently, through application of TOPSIS model, fifteen central national administrations have been prioritized based on eight criteria so that in this great national plan we could the order of connection of administrations based on this prioritization.

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THE ANALYSIS ON POSITION OF SECURITY IN ARCHITECTURE

Seyed Mohammad Reza Moosavi
Young Researchers and Elite Club, Khomein Branch, Islamic Azad University, Khomein, Iran
m_moosavi_architect@yahoo.com

ABSTRACT
The physical comfort is possible through appropriate access to energy and lack of pollution caused by it and living under favorable climatic conditions at suitable temperature and adequate humidity but in many cases spiritual and mental peace and comfort in human depend on the artificial environment in his/her surroundings. Thus human comfort is measured according to three categories of energy, climate, and artificial environment (building and city). The everyday life environment of human in which s/he is immobile and or in move is a space that can be favorable and or intolerable. On the other hand, creating sense of peace and comfort in individual at high levels is related to sense of security in individuals since sense of security may automatically overshadow other human’s requirements and in the case of sense of insecurity, most of senses in human will be reduced and or eliminated. Therefore, it is tried in this article to concern with security as one of the foremost environmental effects on human’s health. To this end, primarily it has been dealt with definition of urban space on the one hand and security on the other hand. Then, after classification of security, the role of urban spaces in sense of insecurity will be explored and finally a case example is proposed that covers security in world comprehensively.

Keywords: Security, Architecture, Urban space, Secure space

INTRODUCTION
Human is a group of potentials, requirements, and objectives that s/he changes his/her surrounding environment with respect to these cases and at the same time s/he is personally influenced by this changed environment. Inter alia, there are some items such as techniques and methods that act such as catalyst in this development and transformation trend. Alternately, this catalyst plays a crucial role in humans’ everyday life today; although, it has caused development and improving life level for humans and at the same time it has disrupted mental and social health of human being and it has been followed by a phenomenon called insecurity [1]. Thus, human is the first and greatest victim of technological development and s/he ruthlessly invades the surrounding environment and then is affected by what s/he has made. Whereas the city is deemed as the main space to form human’s daily relations thus it can be implied that the city and interior spaces are considered as some of the paramount environmental subsystems that influenced by human behavior and actions and also they affect on human. On the other hand, access to security has been one of the foremost reasons for emerging of city a long time ago. The classic cities included some fences around their site that practically protected from them against entry of aliens and risks [8]. With emerging of industrial revolution and development of industrial products, cities were expanded. Thus, modern cities consist of geographical limit with endless population that are not familiar with each other and there is no social control and monitoring over practice of individuals and unemployment, lack of identity, and hostility may spread to the scene of city and city has displayed some part of its hidden practice under title of hostility and abnormal behaviors and this has jeopardized security for cities and citizens [3].

CONCEPT OF CITY
City denotes a place of accumulation of a lot houses in which people are living. At the same time, the inhabitants of city are deemed as the foremost principle in city since the city is a location where human is born and grows and his / her beliefs and behaviors form and after formation of his/her beliefs, s/he presents history and culture through action and behavior displayed by human [7].

DEFINITION OF URBAN SPACES
Although urban space is defined by form and body, basically it is the mutual effect among human and space that makes city as meaningful. Therefore, while urban spaces are created as a place for interaction by urban designers, today inappropriate performance of these spaces has been followed by a reality called insecurity.

SECURITY
In fact, security is something if it lacks, its shortage may be felt so that it is similar to air from this viewpoint. Human’s collective life also originates from this need to security. The group gives human sense of comfort that results from loneliness and in fact it guards from him/ her against risks. But on the other hand, this group may make the environment insecure for human per se.

HIERARCHY OF SECURITY REQUIREMENTS AND POSITION INTER ALIA
Abraham Maslow has presented a hierarchy of needs in order to explain formation of healthy personality in human that it has started from physiologic and physical requirements and it moves toward more complex psychological motives at higher levels. The primary needs such as survival, security and safety, self-reliance, self-actualization, and developmental requirements including perception and aestheticism have been classified as requirements for human in this pyramid. The given requirements should be translated into design language so that John Long has translated them into specific environmental qualities in a model. Based on his model, urban design estimates various human needs as follows [6].

PHYSIOLOGIC REQUIREMENTS
They include some needs such as food, shelter, and healthcare and the comfort and preservation of balance is met in ecology of location that have been considered in urban design through quality of housing, adequate facilities and equipments [6].

Requirement for security and safety

It comprises of some needs such as immunity against risks and pollutions, enjoying the needed private site, and observance the subject of pending status that can be estimated through providing quality of safety for passages, possible control and monitoring, penetration and availability and flexibility of spaces.

REQUIREMENT FOR DEPENDENCY AND NEED TO SENSE OF BELONGING (ATTACHMENT) TO A SPECIFIC CLASS AND GROUP
This need typically leads to encouraging for social interactions through providing social facilities and it is followed by strengthening sense of place, legibility, visual proportion in urban design.

REQUIREMENT FOR SELF-ESTEEM AND SELF-CONFIDENCE
This need is met by quality and way of ownership of lands and constructions followed by creating sense of individuality and belonging to a certain place and group.

REQUIREMENT FOR REALIZATION OF SELF-ACTUALIZATION OR NEED TO DO CREATIVE ACTIVITY
This need is met by opportunities that have provided by urban design to identify space and participation in design operation and also through variation in design.
REQUIREMENT FOR LEARNING AND COGNITION
This requirement is created according rational motives and it may be responsive by providing possibility for cultural- educational activities by urban design and creating space in environmental qualities.

REQUIREMENT FOR AESTHETICS
This need is created based on emotional and spiritual motives and it can be responsive by providing facilities for recreational- artistic activities by urban design and creation of urban and good natural landscapes. Accordingly, ‘security’ as the second basic need in human may play special position among other needs and overlooking this need may be assumed as lack of access to other needs. Thus it seems necessary to recognize definition and identifying the factor may threaten their existence.

DEFINITION OF SECURITY
(Security) is an Arabic term originates from Arabic root (secure) and it means being at ease and comfort and fearless position. Although security and safety are both derived from the same Arabic cognate but no one should confuse these two terms with each others. The security is a social concept and its use makes sense typically as relevant to city, community, and group while safety means avoidance from risk and for living in health and it is often used individually [5].

It has mentioned in great book of in which about eleven thousand Islamic narratives have been gathered from Imam Ali (PBUH) and a lot of very marvelous and constructive narratives have implied about security and particularly based on psychological dimension so it is referred to some them:

(No bounty is more pleasant than security)

(The worst cities where there is no security and green space)

DIFFERENCE IN SENSE OF SECURITY AMONG VARIOUS INDIVIDUALS
Based on definition of security, when one’s life is threatened by a risk or if some conditions govern over the society in which the individual does not feel sense comfort and being secure his/her security may be endangered. The rate of security is not the same for all inhabitant members in a city. In fact, the amount of security sense is much greater in men, adults, well-to-do persons, literate and employed ones, dwellers at the center of city and believers in the current religion than in women, children, low- income persons, illiterate or less- literate individuals, unemployed and outskirt dwellers [4].

THREE FIELDS OF SECURITY
Humans’ activities are done in response to requirements of three fields i.e. soul, ego or mind, and body. Also both basic and constituent elements of architecture and features of final and created form are related to proportionally to one, two, and or three above fields and the optimum state is when there is balance among relevance of architecture to these three domains. Some subjects may be proposed in physical domain such as dimensions, proportions, and materials. Human’s mental and subjective perception and architectural element will be addressed in domain of sensual perception and spiritual symbols, mysteries, and concepts and metaphysical relationship are suggested in domain of intrinsic concept. As a result, security is also explored in terms of three degrees in architecture:

Physical security: Including physical needs such as requirements for food and housing and so forth;

Mental security: consists of sensual needs including freedom and egotism; and
Spiritual security: comprising of soul related needs such as relationship with origin of existence

Indeed these items are assumed as various levels of human’s affection by security or its lack and in other words insecurity also in turn affects on the higher levels at any level and from other aspect. For example, some factors such as environmental stresses initially threaten physical security and mental security of individual in long run. And even conversely mental insecurity will be followed by creation of material and physical consequences [4].

THREATENING FACTORS FOR PHYSICAL AND MENTAL SECURITY
These factors includes some items that directly and indirectly threaten physical and mental security for human among of them one can refer to drugs trafficking and purchase and sale, sexual corruption and violence against females and children, crime, pollutions and stressful environmental factors, hostility, and inappropriate urban designs and planning. Inter alia, it is dealt with way of effect of some of these factors on security.

STRESSFUL ENVIRONMENTAL FACTORS
Stressful environmental factors are some agents that cause loss of individual’s potentials as well as emerging hostility through creation of stress and tension in person in long run and thereby they will influence in rising crime and offence and creating insecure environment. Some of these factors such as traffic and noise due to presence of population and high crowd, presence of automobile and other public transportation vehicles may have instant and immediate effect on individual’s efficiency but in some others such as air pollution or higher level of heat and humidity their consequences will appear in long term [4].

FEATURES OF ACCESS AND COMMUNICATIVE NETWORKS
Less accessibility removes well-being and liveliness from city. Of course, a lot of communications between spaces will increase crime as well. But, some factors such as appropriate accessibility structure, connection networks in good streets and sidewalks, transparent view horizon in street, security in sidewalk by deletion of space capable for hiding, clear access, and lack of public access to back of building will increase sense of security. On the other hand, some factors such as lack of suitable street alignment, lack of traffic light, narrow sidewalks or merged into motorway, banked streets, one-way and narrow and less-enlightened streets, L- and T- form streets will create insecurity in environment [4].

VISUAL POLLUTION
The presence of any disturbance and distortion in physical appearance of city is called visual pollution. Inappropriate landscape of city and the pollutions created by people or officials in city may gradually reduce number of population at that site and this pave the way for perpetration of crime. These pollutions include worn and dirty panels, dust bin, the intrusive transport and traffic signs and panels, abandoned half-built constructions, lack of coordination in materials, broken windows and panels and creation of disorder in skyline [5].

COLOR POLLUTION
The colors may affect positively or negatively on human’s mind. We witness in old buildings how they used a composition of blue turquoise and brown or khaki color that can create sense of security in human.

JOB SECURITY
If someone is not ensure about continuity of his/ her job and thinks about this possibility to lose his/her job that person does no feel sense of job security. Job insecurity may inflict numerous social and economic damages to society including lack of motive for work, tendency to use nepotism
techniques in workplace and non-creation of total quality management system in business that are considered as consequences of job insecurity [11].

ECONOMIC SECURITY
The economic security is a status beyond job security and it takes place when economic instability governs over the society. Non-fixed rates and prices, lack of tendency to investment, subsequent and unreasonable changes in economic regulations and tariffs etc are some cases of economic insecurity.

SCALE
Aristotle argues that a city should not be so big that the voice of public assistance-seeking is not heard behind it. The metropolises include endless and horrendous spaces that seemed to be insecure compared to cities with human scale.

DIFFERENCE OF CLASSIC AND MODERN USE OF ALLEY
The old localities were the places for playing of children and interaction between female householder and in fact there was a type of leisure for individuals that it was defined within framework of use of alleys space. But today through human’s behavioral change, transport of women and children is followed by risk and sense of fear in that locality during some hours in day and night.

URBAN CHESSBOARD DESIGN
This type of design causes creating clearance spaces in cities. With respect to urbanism new structure, the new technique of housing and settlement in flats in which the persons are strangers and not familiar with each other, a criminal may easily enter in these chessboard designed textures and commit his/her crime and then exit from any point that s/he likes. Chessboard (staggered) design is problematic in terms of traffic as well and it may jeopardize security for individuals.

HIGH DENSITY CONSTRUCTION
The localities with high-dense population or those localities which include low-income persons are often subjected to crimes.

RECESS OF CONSTRUCTIONS
Recess of buildings causes creating space out of view in which crime perpetration will be exacerbated.

USE INTERFERENCE
If the architectural uses interfere with each other and residential, commercial, administrative and industrial uses and otherwise are combined with each other some different individuals may move through the site that they have no perfect knowledge about each other. Such an environment prepares very suitable ground for hiding of criminals and crime perpetration [6].

SPIRITUAL SECURITY
The security is one of important spiritual features in Islamic community. From Islamic viewpoint, spiritual security or faith to God is deemed as the main source of security [10]. Interaction among divine faith and security is well manifested in Holy Quran and it has been persisted in this fact that the real security and its main source will realize in spiritual security and this is also in faith to God and acquiring divine consent. This security is the root of all securities and comforts. Accordingly, as it expressed in Holy Quran (Anaam Sura 6: 81-82): “…which then of the two parties is surer of security, if you know? Those who believe and do not mix up their faith with iniquity, those are they who shall have the
security and they are those who go aright.” – Quran assumes security as one of divinely descended blessings for God-believers and as a factor to improve their faith [2].

THE EFFECTIVE FACTORS ON CREATION OF SPIRITUAL SECURITY IN URBAN SPACES
1- Greetings (salutations) among individuals
2- Giving help to each other
3- To perform prayers
4- The existing mosques and Takaya (Islamic mourning places), Hosseiniyeh sites, Shrines, and Quranic training centers
5- Paying attention to reflection of advertisement boards in which they exploited unfairly from Quranic verses or Islamic traditions (Hadith) for their promotion to spiritual insecurity

REVIEW CASE STUDY IN SECURITY IN DIVINE SECURE SANCTUARY (اﻟﮭﯽ اﻣﻦ ﺣﺮم)
The harem (secure site) of God’s house (Mecca) includes certain zone that its distance from border of Kaaba varies from different directions. Harem (sanctuary area) is limited to Tanaim Mosque from north and northwest sides in Medina path, and from south and southeastern side to Okaishie in Yemen route, and to Al-Juranah (جعرانه) near Mena and Mashaar Al-Haram lands and in Taif path and also to Hudaibiyyeh (حدبييه) from westward in Jeddah route [2].

WHY GOD’S HOUSE IS CALLED SECURE SANCTUARY
Mecca is Mother of Cities and pattern of utopia and based on Quranic verses this land should be a secure place for those who live there as well as for the people that come there from outside. Even it was narrated that those ones who have committed crime outside this secured place and then go into this Harem they will not be sentenced as long as they are present in this secure site. Divine sanctuary is also secure for animals and no one has any right to hunt wild animals and birds that are placed within the area of sanctuary. It is noteworthy that prohibition of hunting in secure area of Harem is not exclusively allocated to sacred month of Muharram but it includes all months other than Muharram within secure sanctuary while the prohibition of hunting is a divine trial for humans. This security is due to the effect of blessing of Abraham’s (PBUH) prayer and three requests from God as founder of Kaaba [2].

1- Physical security: land cultivation
   “…Our Lord! Surely I have settled a part of my offspring in a valley unproductive of fruit near Thy Sacred House…” ² (Abraham Sura 14: 37)

2- Mental security: establishment of security
   “…My Lord! Make this city secure…”³ (Abraham Sura 14: 35)

3- Spiritual security: Avoidance from idolatry
   “…And save me and my sons from worshipping idols …” (Abraham Sura 14:35)
CONCLUSION
Sense of security is deemed as one of the spiritual needs for human and as the paramount parameter in quality of urban spaces. Design of urban secure environments and improvement of environmental quality of residential zones is effective in reducing urban crimes to great extent and it is assumed as one of the efficient factors in occurrence of crime in social and living environment in such a way that type and quality of architecture and urbanism may highly influence in reduction or increase occurrence of crimes. Overall, perhaps it can be implied that one is secure and feels sense of security that what s/he has identified legally as an ethical rule for oneself is considered as valid and respected by others at the same time. As a result, urban security is in fact a legal group that is benefitted by an individual as a human city inhabitant there.

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Bashiri, Sajad, Zare Leila & Ziabakhsh, Neda, (2014), Analysis on security of urban environment and architecture in terms of psychology, National conference on architecture and urban landscape, Mashhad, International institute for architectural and urbanism studies of Mahraz Shahr (city)
EVALUATING THE EFFECT OF URBAN RENEWAL PROVISIONS ON RESIDENTIAL SATISFACTION
(CASE STUDY: RENEWAL PLAN OF KHOOBBAKHT NEIGHBORHOOD AT IMAM ALI DISTRICT IN TEHRAN)

Hassan Sajjadzadeh
Assistant Professor, Urban Design Faculty, Bu-Ali Sina University, Hamedan, Iran
h.sajadzadeh@gmail.com

Shahrzad Parto
Phd Candidate in Urban Design, Bu-Ali Sina University, Hamedan, Iran
parto.shahrzad@gmail.com

Kamyar Palizi
MA in Sustainable Architecture, Iran University of Science and Technology, Tehran, Iran
kamyar.palizi@gmail.com

ABSTRACT
With regard to increasing importance of urban regeneration, assessment of previous provisions is considered as a major step due to effect of urban renewal on quality of life and the necessity to use dilapidated fabrics in line with goals of sustainable development and avoidance from urban sprawl. Since residents are the main beneficiaries of urban renewal and this should come to realize aiming at improving their satisfaction with living area, in the present research the measure of residential satisfaction has been used, mentioned as a suitable index to determine desirability of living area and effects of provisions made for it. To measure variables, five-point Likert questionnaire has been used as the research questionnaire; to analyze data and test research hypotheses, one-sample t-test has been used; to compare extent of satisfaction in three groups including centralized renewal, semi-centralized and decentralized renewal, one-way variance analysis has been used. Results from research indicate that neighborhood renewal has not had a significant effect on residential satisfaction in it, resulted in reduction of satisfaction extent in most of indices especially social indices. Neighborhood renewal has led to increase of satisfaction in some physical indices such as physical quality of residential unit. This indicates that attention has been merely focused on physical dimension instead of considering all the components of residential satisfaction. Another important result is higher extent of satisfaction among residents with the purpose of decentralized renewal, which this result indicates the necessity to change from authoritarian modernization models to micro scale, participative and community-oriented models and avoidance from prescribing prearranged physical plans and the necessity to use facilitators public institutions.

Keywords: residential satisfaction, urban renewal, centralized renewal, participative renewal, Khoobbakht neighborhood

INTRODUCTION
More than 130 thousand hectares of urban fabrics in the country, i.e. about 30 percent of the urban fabrics composed from dilapidated fabrics, aimed at urban renewal provisions. In these areas, among a population of over 17 million, about 20 percent of the urban population of the country is residents (government information website, 2014).

Since residents are major beneficiaries of neighborhoods aimed at proposing urban regeneration any intervention affects all their daily life dimensions, their preferences and demands should be specifically taken into account by decision makers (Zheng et al. 2014). Indeed, urban renewal and rehabilitation should come to realize with the purpose of improvement of residents’ welfare,
improvement of identity of neighborhood, increase of their belonging to place of their living area, improvement in quality of life and increase of their residential satisfaction at all dimensions. Therefore, to examine effects of urban renewal on reduction or increase of residents’ satisfaction, the present research has been conducted aiming at examining existence or lack of this relationship.

In this research, an attempt has been made to examine and compare the relationship between residential satisfaction and recreation and renewal of residential environment in a number of renewal models experienced in residential neighborhoods. In this regards, the satisfaction level among the residents of khoobbakht at district Imam Ali(AS) in Tehran has been measured after detecting criteria of residential satisfaction based on world literature. Selection of khoobbakht at district Imam Ali (AS) in Tehran as the case study is of great importance since a wide range of renewal models have been tested in it.

In this regards, the present research has intended to give response to this question whether renewal models and actions in khoobbakht including centralized and up to down renewal model, semi-centralized renewal model and decentralized renewal model have led to improvement in residents’ satisfaction with their living environment or not. Under the relationship, whether effect of urban renewal on each of residential satisfaction dimensions has been more tangible in each of tested models.

**LITERATURE REVIEW**

The studies on satisfaction with residential environment have been conducted with various purposes including evaluation of existing conditions of residential environment and their comparison with residents’ needs(Katitilla,1993; Salleh,2008), measurement of quality of life(Calderion,2011; Galster&Hesser, 1981), evaluation of quality of project(Lara& Bekker, 2012; Liu, 2013). Further some studies have examined the relationship between residential satisfaction with other concepts and indices. For instance, Smith(2011) in his PhD thesis has examined the relationship between three concepts of residential satisfaction, sense of place and sense of belonging to place(Smith, 2011). A variety of research have evaluated extent of residential satisfaction and its effect on decision to continue living or decision to displace living area(Fang, 2005).

In Iran, few studies have been conducted about concept of residential satisfaction. Rafieian et al have examined residents’ satisfaction with residential complexes at Navvab neighborhood and have evaluated extent of residents’ satisfaction at Navvab neighborhood from various perspectives (Rafieian et al. 2009). Rezaei & Kamaei zadeh have examined extent of residents’ satisfaction with Maskan Mehr complexes (Rezaei & Kamaei zadeh, 2013). Ghiaei et al.(2013) have measured residential satisfaction in Farabi Medical Complex(Ghiaei et al. 2013).

Therefore, as observed in domestic literature, attention to residential satisfaction in studies has centralized to residential complexes and less attention has centralized to this concept and its measurement at scale of a neighborhood.

**CONCEPT OF RESIDENTIAL SATISFACTION**

In existing literature, concept of residential satisfaction has been defined in two general ways; some researchers have known residential satisfaction dependent on residents’ understanding from the extent of access to their goals and ideals at their residential environment (Galster, 1987). In this approach, satisfaction refers to a process of evaluation and comparison of existing and expected conditions(Parker& Mathews, 2001), under which residential satisfaction specifically refers to a function of distance between the person’s needs and ideals and existing conditions of residential environment(Varady& Preiser, 1998). This implies that people seek residence in an environment that assists them to achieve their expectations and enable them to achieve their goals. Therefore, the more residential environment has the facilitator role, the more people’s residential satisfaction (Ibem&Aduwo, 2013).

On the other hand, Galster(1987) has mentioned that in another approach people are well informed to consider the basic quantities and qualities as the ideal standards from various aspects of their
residential area based on their experiences, needs and ideals, made an attempt to evaluate their residential environment based on comparison with these standards. If the existing conditions have less gap with their basic image, the satisfaction with residential environment will be experienced, otherwise dissatisfaction with residential environment will be experienced (Ibem & Aduwo, 2013).

MEASUREMENT MODELS OF RESIDENTIAL SATISFACTION
Most of studies related to residents’ satisfaction can be classified in two groups (Potter et al., 2001), i.e. the first group refers to the studies which consider the residents’ satisfaction as a criterion of the evaluation of quality of residential environment, known the residents’ satisfaction as a dependent variable (Marans & Rodgers, 1975), and the second group of studies knew satisfaction with residential environment as a precondition for behavior and as a result assumed it as an independent variable (Newman & Duncan, 1979; Speare, 1974). Therefore, a comprehensive and integrative consideration of residential satisfaction must be determined by means of a theoretical framework, known the residents’ satisfaction as a variable dependent on quality and features of residential environment and assumed it as a variable which causes a certain behaviors. Amerigo & Aragones (1990) made an attempt to provide a theoretical model through examining how a person interacts with environment (image 1).

This model displays the elements which cause a resident’s satisfaction and knows the residential satisfaction as a precondition for general satisfaction with life. In this regards, the studies on residents’ satisfaction have addressed proposing a model and framework based on the factors related to their area, problem and goal.

DIMENSIONS OF RESIDENTIAL SATISFACTION
Results from the related works indicate effect of objective and subjective dimensions on residents’ satisfaction (Table 1).

Table 1. Dimensions and indices of residential satisfaction

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Index</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>Age</td>
<td>Satsangi &amp; Kearns, 1992; Mohit et al., 2010; Caldieron, 2011; Kahraman, 2013; Brown et al., 2005; Salleh et al., 2012; Mohit et al., 2010; Lu, 1999; Perez et al., 2001; Amole, 2012; Salleh et al., 2012; James et al., 2009; Chapman &amp; Lombard, 2006</td>
</tr>
<tr>
<td></td>
<td>Previous and current</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Education status</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Job status</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Financial afford to pay</td>
<td></td>
</tr>
<tr>
<td></td>
<td>type of housing tenure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residence time</td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td>Surrounding environment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>road traffic</td>
<td>Varady, 1983</td>
</tr>
<tr>
<td></td>
<td>Urban landscape in the neighborhood</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The number and quality</td>
<td>Smith, 2011: 29</td>
</tr>
<tr>
<td></td>
<td>Population and</td>
<td>James et al., 2009; Perez et al., 2001</td>
</tr>
<tr>
<td></td>
<td>Residential unit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of rooms of</td>
<td>Zanuzdana et al., 2012; Ukoha &amp; Beamish, 1997</td>
</tr>
<tr>
<td></td>
<td>Quality of indoor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Access to urban services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Access to training</td>
<td>Campbell et al., 1976; Turkoglu, 1997</td>
</tr>
<tr>
<td></td>
<td>Access to health care</td>
<td>Campbell et al., 1976; Turkoglu, 1997</td>
</tr>
<tr>
<td></td>
<td>Access to shopping</td>
<td>Turkoglu, 1997; Campbell et al., 1976; Salleh, 2008</td>
</tr>
<tr>
<td></td>
<td>Access to public transport</td>
<td>Turkoglu, 1997</td>
</tr>
<tr>
<td>Social</td>
<td>friends and relatives in</td>
<td>Allen, 1991</td>
</tr>
<tr>
<td></td>
<td>Social interactions</td>
<td>Parkes et al., 2002; Salleh, 2008; Mohit et al., 2010</td>
</tr>
<tr>
<td></td>
<td>Participation and</td>
<td>Zanuzdana et al., 2012</td>
</tr>
<tr>
<td></td>
<td>The sense of belonging</td>
<td>Amerigo &amp; Aragones, 1997; Young et al., 2004</td>
</tr>
<tr>
<td></td>
<td>Stability</td>
<td>Kasarda &amp; Janowitz, 1974</td>
</tr>
<tr>
<td></td>
<td>perceived safety of</td>
<td>Adams, 1992; Carro et al., 2010</td>
</tr>
<tr>
<td>Economic</td>
<td>Value of residential unit</td>
<td>Kaitille, 1993; Varady &amp; Carroza, 2000; Baiden et Smith, 2011</td>
</tr>
<tr>
<td></td>
<td>Job opportunities</td>
<td></td>
</tr>
<tr>
<td>General satisfaction</td>
<td>Satisfaction with living</td>
<td>Amerigo &amp; Aragones, 1997; Young et al., 2004</td>
</tr>
<tr>
<td></td>
<td>Decision upon</td>
<td>Fang, 2005; Ibem &amp; Aduwo, 2013</td>
</tr>
</tbody>
</table>

RESEARCH METHOD
A closed questionnaire has been used to measure the research variables. The research questionnaire develops from five major sections, i.e., the first section relates to individual indices or demographic variables, the second section relates to measurement of physical indices, the third section relates to social indices, the fourth section relates to economic indices, and the fifth section relates to measurement of residents’ general satisfaction. Except for the first section of questionnaire in which a specific range has been used well suited to the related item, range of all other sections of questionnaire includes five-point Likert scale. To examine validity of questionnaire, the logical method has been used to determine validity based on content validity in which quantity and quality of questions are examined from point of view of experts. To measure reliability, Cronbach’s α coefficient has been used. Cronbach’s α coefficients of each of research variables have been summarized in Table 1. To analyze demographic variables of research and get familiar with the research sample, descriptive statistics were used. To test research hypotheses, one-sample t-test has been used. Further, to test
difference on extent of residential satisfaction among three groups (centralized, semi-centralized and decentralized), ANOVA was used. Software SPSS was used for the considered tests.

**Table 2. Evaluation of reliability of research questionnaire**

<table>
<thead>
<tr>
<th>Variables or indices</th>
<th>Items</th>
<th>Cronbach’s α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical indices</td>
<td>9</td>
<td>0.70</td>
</tr>
<tr>
<td>Social indices</td>
<td>6</td>
<td>0.71</td>
</tr>
<tr>
<td>Economic indices</td>
<td>2</td>
<td>0.75</td>
</tr>
<tr>
<td>General satisfaction</td>
<td>2</td>
<td>0.78</td>
</tr>
<tr>
<td><strong>Sum</strong></td>
<td><strong>19</strong></td>
<td><strong>0.82</strong></td>
</tr>
</tbody>
</table>

**RESEARCH SCOPE**

Khoobbakht neighborhood has been located at eastern south of Tehran along Imam Ali highway. Possession around Khoobbakht street had started since 2003 before providing the renewal plan of Khoobbakht neighborhood due to adaptation with the predicted route of Imam Ali (AS) highway. Yet the early route of highway has changed and adapted to the current route based on plan of highways in Tehran. Therefore, a large number of the Nos which had been destroyed remained without use, and this can be known as one of the major reasons for urban management decision making upon implementation of renewal plan of neighborhood. Followed by establishment of Imam Ali highway and the problems resulted from establishment of this highway at surrounding areas to create a suitable framework for renewal of old fabric with neighborhood-oriented outlook, comprehensive plan for renewal of Imam Ali which had specified the major passages network, use of zones, mean construction density and population density together with share of each of developing neighborhoods among the uses and population was prepared (Andalib et al. 2008, p. 50); with regard to the demolitions at Khoobbakht neighborhood, the urban landscape plan at Khoobbakht neighborhood which had neighborhood scale was prepared as the first sample and implemented with an approach known with participatory renewal (Andalib et al. 2008, p. 50).

![Image 2. The renewal plan of Khoobbakht neighborhood(urban landscape plan of Khoobbakht, 1387)](image-url)
In this regard, renewal plan of Imam Ali which was known with neighborhood-oriented participatory renewal has been implemented at three levels. At the first level ownership of land has been suggested to create service uses and open spaces and create uses with economic value added such as commercial complexes. At this stage, the method "new houses instead of old ones" was used. The mentioned provisions till this stage have been called with centralized renewal.

At the second level renewal organization of Tehran has taken action for acquisition of private investors to facilitate renewal at neighborhood and has granted huge legal and financial supports for investors and persuaded them for investment at old fabric of neighborhood.

At the third level mentioned with decentralized renewal, the custodian system undertakes conducting the capital process of the city to old fabrics, prediction of value added uses, improvement of quality of residence and so forth through policy makings and applying persuasive policies (Andalib et al. 2008, p. 64).

In this regards, the statistical population consists of three groups of residents. Cochran formulate has been displayed below to calculate the sample size:

\[
 n = \frac{t^2 \cdot (p \cdot q)}{d^2} = \frac{1.96^2 \cdot (0.5 \times 0.5)}{0.11^2} = 66
\]

DISCUSSION

DESCRIPTIVE FINDINGS OF RESEARCH
The classification of each of demographic variables has been summarized in table below based on 73 respondents.

Table 3. Classification and descriptive statistics of demographic variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Items</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Under 30 years old</td>
<td>12</td>
<td>16%</td>
</tr>
<tr>
<td></td>
<td>30-40 years old</td>
<td>23</td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td>40-50 years old</td>
<td>12</td>
<td>16%</td>
</tr>
<tr>
<td></td>
<td>Above 50 years old</td>
<td>23</td>
<td>32%</td>
</tr>
<tr>
<td>Gender</td>
<td>Female</td>
<td>35</td>
<td>48%</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>33</td>
<td>45%</td>
</tr>
<tr>
<td>Area of previous housing</td>
<td>Khoobbakht neighborhood</td>
<td>52</td>
<td>71%</td>
</tr>
<tr>
<td></td>
<td>Other neighborhoods</td>
<td>17</td>
<td>23%</td>
</tr>
<tr>
<td>Area of current housing</td>
<td>Khoobbakht</td>
<td>37</td>
<td>51%</td>
</tr>
<tr>
<td></td>
<td>Besat complex</td>
<td>17</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td>Imam reza complex</td>
<td>19</td>
<td>26%</td>
</tr>
<tr>
<td>Education status</td>
<td>illiterate</td>
<td>10</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>Graduate School</td>
<td>26</td>
<td>36%</td>
</tr>
<tr>
<td></td>
<td>Secondary Graduate</td>
<td>9</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>High school graduate</td>
<td>22</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>Student or bachelor graduate</td>
<td>5</td>
<td>7%</td>
</tr>
<tr>
<td>Job status</td>
<td>Self-employed job</td>
<td>16</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>Worker or staff</td>
<td>7</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>Retired</td>
<td>10</td>
<td>14%</td>
</tr>
<tr>
<td></td>
<td>Housewife</td>
<td>35</td>
<td>48%</td>
</tr>
<tr>
<td></td>
<td>Student</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td>Financial afford to pay</td>
<td>Have</td>
<td>15</td>
<td>21%</td>
</tr>
</tbody>
</table>

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RESEARCH HYPOTHESIS TESTING
To measure research hypotheses, one-sample t-test was used. In this regards, H₀ refers to average level and H₁ refers to lower or higher level than average level of each of variables.

H₀: value of the considered variable has not a significant difference with average value.

H₁: value of the considered variable has a significant difference with average value.

In this test, mean of values of each of variables is compared regarding five-point likert scale with the assumed value(3).

<table>
<thead>
<tr>
<th>Residential satisfaction indices</th>
<th>Mean</th>
<th>t-statistics</th>
<th>sig</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical indices</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduction of road traffic</td>
<td>2.89</td>
<td>-0.683</td>
<td>0.496</td>
<td>Lack of difference with mean</td>
</tr>
<tr>
<td>Improvement in urban landscape</td>
<td>3.47</td>
<td>3.006</td>
<td>0.004</td>
<td>Positive difference with mean</td>
</tr>
<tr>
<td>Green and public space</td>
<td>2.64</td>
<td>-2.476</td>
<td>0.016</td>
<td>Negative difference with mean</td>
</tr>
<tr>
<td>Population density</td>
<td>2.41</td>
<td>-4.154</td>
<td>0.000</td>
<td>Negative difference with mean</td>
</tr>
<tr>
<td>Access to health care services</td>
<td>2.78</td>
<td>-1.670</td>
<td>0.099</td>
<td>Lack of difference with mean</td>
</tr>
<tr>
<td>Access to shopping centers</td>
<td>2.95</td>
<td>-0.379</td>
<td>0.706</td>
<td>Lack of difference with mean</td>
</tr>
<tr>
<td>Access to leisure centers</td>
<td>2.49</td>
<td>3.746</td>
<td>0.000</td>
<td>Negative difference with mean</td>
</tr>
<tr>
<td>Access to public transport</td>
<td>3.12</td>
<td>-0.767</td>
<td>0.446</td>
<td>Lack of difference with mean</td>
</tr>
<tr>
<td>Quality of residential unit</td>
<td>3.36</td>
<td>2.076</td>
<td>0.041</td>
<td>Positive difference with</td>
</tr>
<tr>
<td>Social indices</td>
<td>Friends and relatives in neighborhood</td>
<td>2.56</td>
<td>4.174</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Social interactions</td>
<td>2.47</td>
<td>-2.832</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Stability of neighborhood</td>
<td>2.30</td>
<td>-5.482</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Perceptual security of residents</td>
<td>2.55</td>
<td>-2.789</td>
<td>0.007</td>
</tr>
<tr>
<td></td>
<td>Sense of belonging to neighborhood</td>
<td>2.81</td>
<td>-1.262</td>
<td>0.211</td>
</tr>
<tr>
<td></td>
<td>Participation in local institution</td>
<td>2.70</td>
<td>1.812</td>
<td>0.074</td>
</tr>
<tr>
<td>Economic indices</td>
<td>Value of residential unit</td>
<td>2.96</td>
<td>0.215</td>
<td>0.831</td>
</tr>
<tr>
<td></td>
<td>Job opportunities</td>
<td>2.68</td>
<td>-2.385</td>
<td>0.020</td>
</tr>
<tr>
<td>General satisfaction</td>
<td>Satisfaction with living environment</td>
<td>3.23</td>
<td>1.602</td>
<td>0.113</td>
</tr>
<tr>
<td></td>
<td>Decision upon continuing residence</td>
<td>2.68</td>
<td>2.053</td>
<td>0.044</td>
</tr>
</tbody>
</table>

With regard to absolute t-value for indices of reduction in road traffic, access to health care and training services, access to shopping centers, access to public transport, sense of belonging to neighborhood, participation in local institutions, value of residential units, job opportunities and satisfaction with living environment which is under 1.96, it can conclude that after implementing three-dimensional plans of residential renewal, residents’ satisfaction with indices of reduction in road traffic, access to health care and training services, access to shopping centers, access to public transport, sense of belonging to neighborhood, participation in local institutions, value of residential units, job opportunities and satisfaction with living environment have not had a significant change, evaluated at average level.

With regard to t-statistics for indices of green space and public space, population density, access to leisure centers, relationship with friends and relatives in neighborhood, social interactions, stability of neighborhood, residents’ perceptual security and decision upon continuing living which are greater than 1.96, it can conclude that after implementing three-dimensional plans of residential renewal, residents’ satisfaction with indices of public and green space, population density, access to leisure centers, relationship with friends and relatives in neighborhood, social interactions, stability of neighborhood, residents’ perceptual security and decision upon continuing living have been measured at low level.

With regard to t-statistics for the indices of improvement in urban landscape and quality of residential unit which are greater than 1.96, it can conclude that after implementing three-dimensional plans of residential renewal, residents’ satisfaction with indices of improvement in urban landscape and quality
of residential unit has been evaluated at level greater than average. Values of mean related to each of indices have been proposed in table below indicating these results.

**TESTING DIFFERENCE OF RESIDENTIAL SATISFACTION OF THREE GROUPS OF RENEWAL PLANS (CENTRALIZED, SEMI-CENTRALIZED AND DECENTRALIZED)**

To test difference in residential satisfaction level of the residents who attended in each of three renewal models, one-way analysis of variance (ANOVA) has been used (table 5). As observed in table below, sig is greater than 0.05 for the indices of reduction of road traffic, improvement in urban landscape, access to training and health care services, access to shopping centers, access to public transport, quality of residential unit, relationship with friends and relatives in neighborhood, social interactions, stability of neighborhood, residents’ perceptual security, sense of belonging to neighborhood, participation in local institutions, job opportunities, satisfaction with living environment and decision upon continuing living. Therefore, there is not a significant difference between residents of three renewal plans for these indices. Sig is less than 0.05 for indices of green and public space, population density, access to leisure centers and value of residential unit. Therefore, there is a significant difference between residents of three renewal plans for these indices, that residents of these three renewal plans evaluated level of these indices at their living area so different.

**Table 5. Results of ANOVA to test difference in residential satisfaction of three groups of renewal plans**

<table>
<thead>
<tr>
<th>Indices of residential satisfaction</th>
<th>Sig</th>
<th>Error value</th>
<th>F</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical indices</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduction in road traffic</td>
<td>155/0</td>
<td>0.05</td>
<td>914/1</td>
<td>Lack of difference of means</td>
</tr>
<tr>
<td>Improvement in urban landscape</td>
<td>192/0</td>
<td>0.05</td>
<td>688/1</td>
<td>Lack of difference of means</td>
</tr>
<tr>
<td>Public and green space</td>
<td>000/0</td>
<td>0.05</td>
<td>596/8</td>
<td>difference of means</td>
</tr>
<tr>
<td>Population density</td>
<td>40/0</td>
<td>0.05</td>
<td>360/3</td>
<td>difference of means</td>
</tr>
<tr>
<td>Access to health care services</td>
<td>656/0</td>
<td>0.05</td>
<td>424/0</td>
<td>Lack of difference of means</td>
</tr>
<tr>
<td>Access to shopping center</td>
<td>546/0</td>
<td>0.05</td>
<td>610/0</td>
<td>Lack of difference of means</td>
</tr>
<tr>
<td>Access to leisure center</td>
<td>018/0</td>
<td>0.05</td>
<td>234/4</td>
<td>difference of means</td>
</tr>
<tr>
<td>Access to public transport</td>
<td>754/0</td>
<td>0.05</td>
<td>296/6</td>
<td>Lack of difference of means</td>
</tr>
<tr>
<td>Quality of residential unit</td>
<td>810/0</td>
<td>0.05</td>
<td>212/0</td>
<td>Lack of difference of means</td>
</tr>
<tr>
<td><strong>Social indices</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relatives and friends in neighborhood</td>
<td>684/0</td>
<td>0.05</td>
<td>381/0</td>
<td>Lack of difference of means</td>
</tr>
<tr>
<td>Social interactions</td>
<td>447/0</td>
<td>0.05</td>
<td>816/0</td>
<td>Lack of difference of means</td>
</tr>
<tr>
<td>Stability of neighborhood</td>
<td>261/0</td>
<td>0.05</td>
<td>368/1</td>
<td>Lack of difference of means</td>
</tr>
</tbody>
</table>
Mean and priority of residents’ residential satisfaction in each of renewal plans with indices of green and public space, population density, access to leisure centers and value of residential unit have been summarized in table below, through which it can determine priority of each of renewal plans (centralized, semi-centralized and decentralized) to each other. For all the indices of public and green space, population density, access to leisure centers, value of residential unit, residents’ satisfaction level in decentralized renewal plan is greater than semi-centralized renewal plan. In other words, the more moving from centralized renewal plans to decentralized plans, residents’ residential satisfaction with indices of green and public spaces, population density, access to leisure centers and value of residential unit increase. In other words, residents of decentralized renewal plans have more satisfaction in indices of green and public space, population density, access to leisure centers and value of residential unit than residents of semi-centralized and centralized renewal plans.

Table 6. Order of residential satisfaction in three renewal plans

<table>
<thead>
<tr>
<th>Satisfaction indices</th>
<th>Renewal plan</th>
<th>No of respondents</th>
<th>Mean</th>
<th>Rank</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical indices</td>
<td>Green and public space</td>
<td>Centralized</td>
<td>36</td>
<td>22/2</td>
<td>Satisfaction at low level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>semi-centralized</td>
<td>19</td>
<td>58/2</td>
<td>Satisfaction at relatively low level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>decentralized</td>
<td>18</td>
<td>55/3</td>
<td>Satisfaction at relatively low level</td>
</tr>
<tr>
<td></td>
<td>Population density</td>
<td>centralized</td>
<td>36</td>
<td>06/2</td>
<td>Satisfaction at low level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>semi-centralized</td>
<td>19</td>
<td>67/2</td>
<td>Satisfaction at relatively low level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>decentralized</td>
<td>18</td>
<td>82/2</td>
<td>Satisfaction at average level</td>
</tr>
<tr>
<td>Access to leisure centers</td>
<td>centralized</td>
<td>36</td>
<td>11/2</td>
<td>3</td>
<td>Satisfaction at low level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>semi-centralized</td>
<td>19</td>
<td>84/2</td>
<td>Satisfaction at average level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>decentralized</td>
<td>18</td>
<td>89/2</td>
<td>Satisfaction at average level</td>
</tr>
</tbody>
</table>
CONCLUSION

The results indicate that renewal of Khoobbakht neighborhood has not had a significant effect on residents’ satisfaction level, but extent of this effect is not the same in various dimensions and indices. No change has taken place in some of dimensions of residents’ satisfaction before acting for renewal at the neighborhood, whereby this has not led to residents’ satisfaction with renewal. For instance residents’ satisfaction with indices of reduction of road traffic, access to training and health care services, access to shopping centers, access to public transport, sense of belonging to neighborhood, participation in local institutions, value of residential units, job opportunities and general satisfaction with living environment.

Concerning some of indices, an action to renewal of neighborhood has not just followed by a positive effect but also has led to reduction of residents’ satisfaction at these areas. These factors including quantity and quality of public and green spaces, population density, access to leisure centers, relationship with friends and relatives in neighborhood, social interaction, stability of neighborhood, residents’ perceptual security and decision upon continuing living have been evaluated less than average level.

Yet an action to renewal of Khoobbakht neighborhood has caused improvement in residents’ satisfaction level just in some of the areas such as indices of urban landscape and quality of residential unit. This indicates that economic and social factors and quality of urban facilities and services have not been taken into account in renewal made based on urban landscape plan, so that this has had a negative impact on mentioned aspects.

The interesting points in the results above indicate that although renewal of Khoobbakht neighborhood has not had any effect on extent of residents’ satisfaction, their motivation has reduced to continue living at the area, which this is contrary to most of the studies which had referred to direct relationship between residential satisfaction and decision upon continuing residence at residential environment.

Comparison of three centralized, semi-centralize and decentralized models associated to most of indices including indices of reduction of road traffic, improvement of the urban landscape, access to educational and health services, access to shopping centers, access to public transportation, quality of residential units (the physical indicators), relationship with friends and relatives in the neighborhood, social interactions, neighborhood stability, residents’ perception of security, a sense of belonging to the neighborhood, participation in local institutions (social indices), job opportunities (economic indicators), satisfaction with living environment and decision upon continue living (indicator of overall satisfaction) indicated no significant difference among residents of three renewal projects; residents of each of renewal projects evaluated level of these indices at their living area the same. Concerning indices of public and green space, population density, access to leisure centers, value of residential unit, there is a significant difference between residents of three renewal models; residents of these three renewal projects evaluated level of these indices at their living area different. Concerning four indices of green and public space, population density, access to leisure centers, value of residential unit, extent of residents’ satisfaction in decentralized renewal project is greater than semi-centralized renewal project.

In other words, the more moving from centralized renewal projects to decentralized renewal projects, residents’ satisfaction with indices of green and public space, population density, access to leisure centers and value of residential unit increase. In other words, residents of decentralized renewal projects are more satisfied with indices of green and public space, population density, access to leisure centers and value of residential unit than residents of centralized and semi-centralized renewal projects.
projects. This indicates superiority of decentralized and participatory models and micro-scale provisions to centralized models and predetermined projects regardless of residents’ needs and conditions and major beneficiaries of neighborhood.

SUGGESTIONS
With regard to the findings and results from this research, compliance with factors below seems effective to increase residential satisfaction under provisions to urban renewal;

- considering increasing residential satisfaction as the major goal in provisions of urban renewal

- changing approach from centralized and comprehensive renewal models to participatory and micro-scale models

- avoiding prescription of pre-determined physical projects without environmental and socioeconomic studies and evaluations

- avoiding residents’ extensive displacements due to renewal provisions

- moving towards stable recreation of neighborhoods with a gradual process instead of extensive renewal

- considering all the dimensions and of residential satisfaction instead of attention to physical dimension

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INVESTIGATING OF ENVIRONMENTAL AND HUMANISTIC ELEMENTS OF SUSTAINABLE ECOTOURISM IN THE STAIR-SHAPED ARCHITECTURE OF MIDDLE ZAGROS (CASE STUDY: HAJIJJ VILLAGE)

Seied Sajad Rahmatabady
Young Researchers and Elite Club, Shoushtar Branch, Islamic Azad University, Shoushtar, Iran
Rahmatabady@gmail.com

Kourosh Pashaei
Department of architecture, College of Engineering, Boroujerd Branch, Islamic Azad University, Boroujerd, Iran

Mehdi Rezaei
Department of architecture, College of Engineering, Shoushtar Branch, Islamic Azad University, Shoushtar, Iran

Tahereh Rahmatabady
Department of architecture, College of Engineering, Kangavar Branch, Islamic Azad University, Kangavar, Iran

ABSTRACT
Zagros Mountains located in the west of Iran. In this region, nature, climate and environment is distinguished than other parts of the country. What has caused this difference certainly is Zagros Mountain. Special architecture of the dwellings and formation of many villages of this region have been affected by them. Zagros region tourism potentials and attractions have been considered by internal and external tourists in recent decade. Environmental and natural elements like: river, waterfall, forest, wildlife natural species and ecosystem and man-made elements like stair shaped houses, compatible with climate architecture and harmonization between construction and context have great effects on eco-tourists gathering. Researchers in this article scrutinize ecotourism features in a village (located in the heart of the Hawraman, in the middle Zagros) called Hajiij as a valuable texture village. Then the impacts of tourist on human and environmental components of the village and present threats and challenges have been studied. Beside field researches, questionnaire and interview with residents and officials as two statistical samples are applied in the research. After analyzing gathered data, research findings have been presented quantitatively. Finally strategies to face threats and weaknesses of village ecotourism have been presented. Applying them in a long term will have sustainable effects like reducing poverty, protecting native values and culture, economic development and reducing migration.

Keywords: Tourism, Rural texture, Hajiij, Sustainability, Rural texture

INTRODUCTION
History, culture, lifestyle, and language of every nation are interwoven in a pervasive source so that understanding and knowledge of these elements is just acquired by their direct observation and without knowing these in different societies, social culture won’t develop, even it may be destroyed. So tourism in places where cultures destiny is interrelated, is a widespread cultural discourse. Tourists have the message of unity among cultures and it is an instrument for communication between them (Dibaei, 1992, 12). Touring is thought of as an important and new phenomenon in 21th machine-made and its importance is increasing every day in the world; since increasing technology, machine-made life of nations and...
development of new inventions and explorations that makes man depended on cities, causes a lot of problems to be found in cities (Butler, 2002). According to world tourism organization definition of tourism in 1993, “tourism is any kind of trip including at least one night staying and less than one year away from home” (Swarbrook, 1999, 144). At present most countries in the world have a close competition to interest their own countries capabilities in allocating lion’s shares of tourism industry income and simply lead to employment (Moulaei Hashtjin & Khoshnoud, 2007, 1).

Iran having one million and two hundred hills, one hundred and fifty thousand monuments, attractions and different resources is one of the first ten countries having the world tourist attractions, and one of the first five countries in ecotourism attraction and varieties (Saghaei, 1386:455). Climate variety in Iran is such a way that makes travelling for Iranians and foreigner tourists possible in all seasons of the year. But this country despite having different tourism attractions and because of diverse reasons hasn’t still been able to apply this benefit.

On the other hand many countries all over the world have been protecting natural environment and human-cultural resources for the past 30 years for the compatibility of development and protection. It finally has led to compilation of sustainable development principles and suggesting different new choices for sustainable tourism such as, sustainable ecotourism.

VILLAGE TOURISM AND ECOTOURISM
Ecotourism hasn’t still been defined clearly. The first definition was proposed by “Hetzer” in 1965. According that ecotourism is based on four major components of reducing undesirable environment effects, respecting native culture, increasing benefits from tourism for local people and tourist satisfaction (Hetzet, 1965, 188). “Weaver” and “Lawton” don’t consider ecotourism as a scientific and academic field because of its division in to different parts and lack of integration. They say it is still in its teens and ecological, social, cultural and economic effects should be considered systematically and coherently (Weaver & Lawton, 2007, 1168).

According to “Goodwin” nature based tourism include types of centralized tourism, exciting motivated tourism and tourism with mild consequences in which major motivation is to benefit wild and genuine nature with species and animal habitats, natural scenes and attractive rivers (Goodwin, 1995, 130).

World Trade Organization (1996) considers two major functions for village ecotourism to be achieved: 1) promoting economical capacity of rural societies for creativity and developing human resources by investing in these regions and verifying village societies economical functions. 2) Helping economical regions out of economic, social, cultural isolation and connecting rural economy to regional, national and international economy respect to globalization processes (Maghsoudi and Lashgarara, 2004:55). The necessity to develop villages than cities is not because of large population of third world countries live in villages rather the problems of migration, unemployment and population density of cities arises from village environment quality (Teodaro, 1989, 44).

DIMENSIONS OF STABILITY IN ECOTOURISM
Ecotourism has an international significance, since it can be very useful by using cost and benefit models to achieve sustainable development. “Blangy” and “Mehta” have emphasized the important role of ecological regions revived in the field of ecotourism and they know it to be an important approach tourism planning. They also believe ecological revival has the most significant role in ecotourism that can lead to rapid development of tourism and sustainable development in different dimensions (Blangy & Mehta, 2006, 233). Sustainable tourism responds present needs of tourists and future generation and equilibrates environmental, economic, social and cultural dimensions. It means sustainable tourism wants to measure ecological tolerance capacity, economical measurement possibility and sociocultural acceptance (Elsasser et al, 1995, 17). Sustainable development consist three dimensions of economic, social and ecological. They have a specific structure and a hierarchical system (the following diagram). These dimensions each have a special role in sustainable development. Identifying these roles depends on the subject of the study (Birkmann, 2000, 168). In addition to preserving quality, variety of cultures and different environments,
sustainable tourism seeks to increase income and promote village life level and make a balance in three dimensions of tourism, local residents and the place of tourism (Akbari & Bemanian, 2008, 134).

The major motivation in constant ecotourism is, travelling to nature and visiting a region’s natural attractions including form features and its native culture. Ecotourism requires human resources more than welfare and staying installations, so ecotourism doesn’t have huge investment attraction but it provides many job opportunities that its advantages directly go to natives. It should be noted that interference in nature and natural landscapes results in their context destroying and unidentity (Akbari & Bemanian, 2008, 134).

Diagram 1: Dimensions of Tourism Sustainable development (University of Dortmund 2000:14)

NATURAL ENVIRONMENT OF HAJIJI VILLAGE
Hajij is a suburban village of Pawa, Hawraman region and Kermanshah province. It is located at 34 and 123kms away from Pawa and Kermanshah respectively. It has a mild and mountainous climate. In summer and spring it has a pleasant climate and in autumn and winter is cold. Sirwan river- the largest river in the province passes near the village. Although there are no valid proofs about its history, the presence of “Abidolla” shrine known as “Kowseh Hajij” shows the village’s ancient history. The people speak Kurdish language and Hawrami dialect. This dialect is just spoken in Hawraman region and UN has registered it as an extincting dialect (Wurm, 2001, 90).

Table 1: Climate and geographical features of the Hajij Village (source: Kermanshah province aerology site)

<table>
<thead>
<tr>
<th>Climate feature</th>
<th>Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual normal temperature</td>
<td>15.1°C</td>
</tr>
<tr>
<td>Absolute minimum temperature</td>
<td>-13</td>
</tr>
<tr>
<td>Absolute maximum temperature</td>
<td>41.1</td>
</tr>
<tr>
<td>Wind direction</td>
<td>North western</td>
</tr>
<tr>
<td>Normal wind speed</td>
<td>4 km/h</td>
</tr>
<tr>
<td>Height from sea level</td>
<td>850 m</td>
</tr>
<tr>
<td>Latitude</td>
<td>35/95</td>
</tr>
<tr>
<td>Longitude</td>
<td>46/20</td>
</tr>
<tr>
<td>Rain fall average</td>
<td>1050 mm</td>
</tr>
<tr>
<td>Annual sun dial</td>
<td>2750 h</td>
</tr>
<tr>
<td>Climates</td>
<td>Mild and humid</td>
</tr>
<tr>
<td>Plants</td>
<td>pasture covered by</td>
</tr>
</tbody>
</table>
Based on 2011 census, the village has 1036 people. People income is often from gardening and animal husbandry. Being mountainous, in this region farming is not possible, instead gardening is flourishing. Fruits like, nut, Pomegranate and grapes are its most important products. Dried whey, milk, animal oil and butter are the main milk products. Keeping and nurturing different birds is common. Some people are self-employed and work in handicrafts. The village context is compressed and centralized in a valley on the northern mountain foot. General slope of the village is more than 40 percent. The building main orientation is toward the south, south eastern and south western, to get the greatest rate of heat and sunshine special in winter. The village context has followed the mountainous geography. In addition to houses orientation, gardens formation is based on climate and topographical factors. General context of the village is in the middle of hillside to keep them safe from flood in the bottom and cold winds on top of mountains and have access to water. On the other hand there is no house on the southern mountain foot that is not faced to the sun; instead gardens and farm lands observable to residents are located there. So the best alternative for houses is the one in the picture. The real connection between human and nature can be seen here. The rigid and strong body of the mountain is carved. Flat and high walls are made by the same stones and in that restricted place a house is formed with same color (of the mountain) but the form has changed. The windows color is due to their belief blue (Rahmatabady & Amjadian, 2012, 93). Stone walls which are usually about 3 to 7 meters high, often built without mortar. Just timbers are inserted between courses of stones to increase residence against vertical and horizontal earthquake forces. The wall thickness along with clay and straw layer and plaster layer in the inner wall, causes more resistance and decreases heat fluctuations. The houses flat ceiling, are covered by wooden bars and filled with clay and straw. The common used materials include, stone, wood and clay mortar. Metal or brick are never used.

**Picture 1:** Situation of Hajij village in the province and Iran

**Picture 2** (left): Materials used in the wall. Pictures 3 and 4: Position and orientation of Hajij (source: authors)
POTENTIALS AND TOURISM ATTRACTIONS OF HAJIIJ
GEOPHICAL ATTRACTIONS
Sirwan River: It originates from Kurdistan province and it is the largest river in Kermanshah and Kurdistan province. After traveling 215kms meanderings and near many cities and villages goes out from Kermanshah and enters into Iraq. The ministry of energy is building a dam on it with huge equipment to use the water in western cities lands and preventing its exit from Iran. The dam is 250 meters high and is being built 4100 meters away from the village. The river has made many plant and animal species and organisms live there; it has also caused climate adjustments.
Kani Bel spring: Sirwan brings many waterfalls and springs along such as Kani Bel spring which has $5m^3/s$ flow with healing property. The dam project will destroy this spring and many other living species and ecosystems. The disaster is that about 70 houses of Hajiij will be drowned in water because they are lower than the dam height. The officials have proposed that the residents build their houses in higher places by buying their houses.
Intact and safe nature: Since the region is mountainous and difficult to pass, has less been influenced by destructive impacts of technology and machine and less constructions has been made in it. It also includes intact ecosystems and nature and wildlife species. Nature without audio-visual and environmental contaminations is the interest of tourists. In this way their desire to see the nature and its worth seeing mountains increases.

![Picture 5: Bel spring eruption into Sirwan. Due to dam operations, the river has been muddy](source: www.davasaz.blogfa.com).

ARCHITECTURAL ATTRACTIONS AND MANKIND-BUILT ENVIRONMENT
Abidollah shrine: At the beginning and lower part of the village there is a shrine is called “Kowseh Kajji”. Its construction is four brick arched. According to local people Abidollah is one of Imam Mousa Kazem’s descendents. Other valuable monuments are “Khanghah” and “Cheleh khane”. One of the most important ceremonies held is recite and song of dervishes. They hold in special days and by gnostic songs and dances.

![Picture 6: mountain Climbing as a part of tourist’s activities in the region (source: www.davasaz.blogfa.com).](source: www.davasaz.blogfa.com).
Pictures 7, 8 and 9: Imam Abidollah shrine will residents religious ceremonies. (Source: authors)

Village texture and constructions body: Constructions that have developed according to their bed, their form are stair shape on each other. This has caused shared semi public and private spaces that strengthen social relationships and interactions. Passes have combined with yards, porticos and roofs of the houses and highlights people’s presence in these spaces. They are narrow with many steps that sometimes are roofed. No sign or noise of automobile or motorcycle is heard by residents and tourists.

Pictures 10, 11 and 12: Notice to passes and compatibility of houses with bed (source: www.davasaz.blogfa.com)

LOCAL AND CULTURAL ATTRACTIONS
clothing: The village clothing is native, like other Kurdish residents of Kurdistan. Threats compatible with cultural values and affected by mountains context of the region, since activities are done more freely.

Handicrafts and industries: different kind of handicrafts such as: short-napped coarse carpet (Gelim), JaJim (thin carpet), Giveh (woven shoes), hand kerchief, basket, native clothes are produced specially by women. Majority of people are working but about one tenth make a living of them.

Picture 13, 14 and 15: Some dwellers make money with producing handicrafts (source: authors).

Products: Fish farming because of the existence of the river, different kinds of milk products and animal oil are presented to visitors. The desired amount of rainfall has produced different green gardens and fruits like pomegranate, nut and grape are the main products of the village. To access valid attainment about the positive and negative effects of tourism, the author has repeatedly presented in the village and applied field researches, in addition used questionnaire and interview with residents. The priorities in gathering data were experienced and informed native people. To increase credibility of research, organization research, questionnaire, interview with cultural inheritance officials, villagers home institution, village governor and
council were emphasized. The research was based on varied questions in order to study ecotourism challenges and threats in the village to achieve contrast ways and promote strength and opportunities.

THE TESTING AND DATA GATHERING
43 people from the residents were participated in the test. Thirty people continued the test (No.1 statistical population). 22 officials of which twelve people continued the test (No.2 population). To increase research validity, after statistical analysis results have been shown quantitatively by the help of statistical experts. Five options: (1) never, (2) somewhat, (3) average, (4) high and (5) very high have been considered for answering the questions. The range of each is, 0 to 20, 20 to 40, 40 to 60, 60 to 80 and 80 to 100 respectively. And (i.e. 10, 30, 50, 70, and 90) is the average of each class. For example in a question like to what extent tourists visiting disturb the resident privacy and peace? 12 responses of dwellers were “never”, 13 responses were a little and in this way. By applying $\sum_{i=1}^{n}(fi \times ki) / n$ in which $f_i$, $k_i$ and $n$ indicates the frequency, average of each class and the number of statistical samples respectively. Found numbers that are from 10 to 90 indicates quantitative value of every class. Research finding have been shown in Histogram in which blue and red statistical bars show residents (population 1) and officials (population 2) respectively.

**Table 2:** The quantitative result of the question: what extent tourists visiting disturb the resident privacy and peace?

<table>
<thead>
<tr>
<th>Number of each class</th>
<th>Value of each class</th>
<th>Range of each class</th>
<th>$k_i$</th>
<th>$f_i$</th>
<th>$f_i \times k_i$</th>
<th>$(f_i \times k_i)/n$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>never</td>
<td>0 - 20</td>
<td>10</td>
<td>12</td>
<td>120</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>little</td>
<td>20 - 40</td>
<td>30</td>
<td>13</td>
<td>390</td>
<td>13</td>
</tr>
<tr>
<td>3</td>
<td>average</td>
<td>40 - 60</td>
<td>50</td>
<td>3</td>
<td>150</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>high</td>
<td>60 - 80</td>
<td>70</td>
<td>2</td>
<td>140</td>
<td>4.6</td>
</tr>
<tr>
<td>5</td>
<td>Very high</td>
<td>80 - 100</td>
<td>90</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sum</td>
<td></td>
<td></td>
<td>30</td>
<td>1440</td>
<td>26.6</td>
<td></td>
</tr>
</tbody>
</table>

**DATA ANALYSIS AND STATISTICAL APPROACH**
Questions were designed to reflect strengths, weaknesses, opportunities and threats of ecotourism in the village by the four following approaches with the minimum errors.

**Sociocultural approach:** In this approach the rate of tourists effects on village culture and vice versa has been studied; the impact of tourists on traditional attractions, native culture (clothing, dialect and interactions) and tourists being effected by native culture.

![Diagram 2](image)

**Diagram 2:** analyzed data in Sociocultural approach for two statistical population villagers (blue bars) and officials (red bars)
**Economical approach:** another approach which residents and officials believe has an important role is economic aspects of tourism. By design different questions such as the impact rate of tourists on village economy, residents migrations and maintaining village potentials on tourists attractions, the results were as follow:

![Diagram 3: Analyzed data in the economical approach for two statistical population villagers](image)

**Environmental-physical approach:** questions designed based on environmental-physical approach have dealt with the role of environmental resources in attracting and directing tourists: road quality, constructions architecture and form, pavement of pathways and alleys. Tourists guide signs, parking, passengers resting and staying places. The following results have been achieved:

![Diagram 4: Analyzed data in the environmental-physical approach for two statistical population villagers](image)
Diagram 5: analyzed data in the management approach for two statistical population villagers

Management approach: This approach emphasizes the role of managers and organizations in the attracting and keeping tourists. The people participation in decision-makings, government facilities, underlying utilities and welfare, tourists statistics, village official wages, government advertising and projects supervision are studied.

RESEARCH STATISTICAL FINDINGS
The important research findings in the four mentioned fields and based on analyzed statistics as the following table show that:

Table 3: result of the research in the analyzed approach

<table>
<thead>
<tr>
<th>Approach</th>
<th>Statistical sample</th>
<th>Percent of every approach</th>
<th>Number of every class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-cultural approach</td>
<td>Residents</td>
<td>1/39%</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>officials</td>
<td>7/41%</td>
<td>3</td>
</tr>
<tr>
<td>Economic approach</td>
<td>Residents</td>
<td>61%</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>officials</td>
<td>8/56%</td>
<td>3</td>
</tr>
<tr>
<td>Physical-environmental</td>
<td>Residents</td>
<td>9/56%</td>
<td>3</td>
</tr>
<tr>
<td>approach</td>
<td>officials</td>
<td>1/53%</td>
<td>3</td>
</tr>
<tr>
<td>Management approach</td>
<td>Residents</td>
<td>6/64%</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>officials</td>
<td>58%</td>
<td>3</td>
</tr>
</tbody>
</table>

Management and economical approach which have achieved the highest scores respectively include more weaknesses and are subject to more serious threats. These challenges must be change to opportunities or strengths by adopting economical and management strategies. Although villagers believe that dam building is a national project, since it destroys one third of houses and a part of gardens they are not willing it to be finished. They also believe by expending expenses, great deal of time and destroying ecosystems, there is no guaranty to attract tourists. Receiving indemnity is the most significant anxiety of those whose house is sunk. They state that by this little amount of money they can rent a house in city although they have no tendency to migrate. The government is considered upper grounds of village for building new houses by giving facilities and transportation of building materials (following picture). The residents complain, is that related organizations don’t participate them in village affair, although the organizations don’t supervise village projects continuously too. Village governors and councils aren’t motivated to take actions since they are not paid properly.
Since the link road of village to cities is difficult to pass and has a low quality and safety, it's a big obstacle for tourists entrance. Village reconstruction, paving pathways and directing surface water are cases that increase tendency of tourists to walk at village. Luckily with help of village house institution, valuable context reviving operations such as: pavement of pathways and making waterways have started in 2012 (The plan constructors are author’s students).

The villagers are often producing handicrafts inside or semipublic spaces of the houses and they don’t have any special place to exhibit and sell them. If a part of the village is devoted to workshop and exhibition to produce and present handicrafts and souvenir, it will cause coherency in their activities and centralizes tourists.

One of the strategic management methods that are capable to interfere with crisis facing systems is classifying information in a table based on tour factors: strength, weakness, opportunity and threat. This method which is highly use in fields by researchers like ecotourism, identifies the system tasks which has to be faced and indicates where remedies should be made and where preventions should be sought.
Table 4: presentation internal analysis (i.e. weakness and strength) and external analysis (i.e. threats and opportunities) of ecotourism in the village based on SWOT table.

<table>
<thead>
<tr>
<th>Threat</th>
<th>Opportunity</th>
<th>Weakness</th>
<th>Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weakening native culture by tourists</td>
<td>Propagating and presentation of residence clothing in tourists interactions</td>
<td>Residents privacy and peace disorder</td>
<td>Native culture values propagation</td>
</tr>
<tr>
<td>Change in people and the young clothing</td>
<td>Preserving and broadcasting folklore music</td>
<td>Resistant’s inability to guide and help tourists</td>
<td>Reviving native values from residents viewpoints</td>
</tr>
<tr>
<td>Weakening traditional and ancient attraction</td>
<td>Emphasize on native dialect</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modern medium(satellite &amp; internet) prevents the young and natives from their genuine culture</td>
<td>Displaying native ceremonies and customs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shakes from mountain destroying and its destructive effect on neighboring</td>
<td>Preserving of organic landscape</td>
<td>Lack of possibility for long-time tourists</td>
<td>Fresh an unpolluted air</td>
</tr>
<tr>
<td>Sinking a part of village in dam water</td>
<td>Constructing of organic tourism buildings</td>
<td>Lack of temporary resting places for tourists</td>
<td>Green nature and jungles</td>
</tr>
<tr>
<td>The region ecosystem weakening by founding warehouses, worker’s houses</td>
<td>Respect to the natural environment and maintaining its healthy</td>
<td>The lack of tourists guiding signs and proper information</td>
<td>Peace and quiet in locals due to lack of automobile</td>
</tr>
<tr>
<td>Development of village by non-compatible constructions with content and climate</td>
<td>Lack of stone pavements of paths</td>
<td>Organic and traditional architecture of village</td>
<td></td>
</tr>
<tr>
<td>Living species and organisms destroying and sinking by dam water rise</td>
<td>Lack of parking and rest rooms</td>
<td>Unique and star shaped context of village</td>
<td></td>
</tr>
<tr>
<td>Improper linking road</td>
<td>Climate changes during seasons</td>
<td>Not coverage well mobile phone</td>
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<td>Not directing surface waters and the lack of waterway</td>
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<tr>
<td>Promoting economical developing projects</td>
<td>Not exhibitions to display native products and handicrafts</td>
<td>Resident investment in promoting services and tourists attractions</td>
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<tr>
<td>Decreasing unemployment</td>
<td>Lack of fairs to produce handicrafts</td>
<td>Multi dimension village economy</td>
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<td>Reducing migration to cities</td>
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<td>Increasing village economical potentials</td>
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<td>Not participating dwellers in decision making</td>
<td>Encouraging and supporting rich dwellers</td>
<td>Not continual supervision by the officials</td>
<td>Accelerating facilities to those whose house has been destroyed</td>
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<tr>
<td>Inadvertent in maintaining tourists attractions by the officials</td>
<td>Ignoring village governors role and not supporting them by governor</td>
<td>Future performing projects and supervising by villagers</td>
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<tr>
<td>Not providing those house have sunk in water with facilities</td>
<td>Not perceive information about the village and dwellers</td>
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<tr>
<td>The lack of underlying facilities and welfare</td>
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<td>Not estimating the number of tourists and passengers</td>
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<tr>
<td>Dwellers unawareness about tourism values of their village</td>
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<td>Insufficient income of responsible people</td>
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</table>

CONCLUSION AND SUGGESTION

Government managers should revise their management approaches. They should elicit the precise statistical information of village and tourists to identify village tourism capacities clearly. In sustainable ecotourism cycle, host people are one of the significant components. Ignoring them causes losing tourism opportunities. Since ecotourism doesn’t require great budgets, managers forget its importance. Whereas with this little budget, more economical flourishing is built both for people and government. Providing and developing underlying facilities, considering functional and aesthetic concepts and principles, to achieve visual unity and quality satisfies tourists. Such village’s development should be performed in such a way that their formation and constructional change meet in a long continuous development process. Gradual-
historical development is a firm development based on accepted paradigms and concepts that leads to totally organized and sustainable village environment. Continuous, establishment of people in villages reflects maintaining economy culture and civilization resources of a society. By protecting village ecology and its genius aesthetics qualities, we can propagate its rapid technological conforming and its industrial new economic systems as well. In this way besides propagating the reach culture, we can strong then culture and civilization bases in villages.

To sum up the following principles in village ecotourism development lead to preserving natural resources and human capitals, economic Self-sufficiency and preventing culture annihilation and finally results in sustainability.

1- Allocating purposeful budgets and government facilities to tourism potential villages
2- Government supervising of village development and preventing tactless constructions which destroys visual qualities of buildings and their views.
3- Maintaining organic context, physical stability and compatibility with its developing bed.
4- Government cooperation in developing village with dwellers in all steps such as: decision-making process supervision and performance, to increases people sensitivity to their living environment quality.
5- Promoting underlying utilities and welfare like roads qualities, developing link roads, drinking water, parking, rest room.
6- Temporary and long-time staying places for ecotourists according to their needs.
7- Workshops or productions foundations to employ the residents and women high presence and wide range participations of natives.
8- Fair foundations including cultural (to display native attractions), handicrafts, productions and village souvenir.
9- Using media and virtual spaces: internet websites, weblogs, media and news agencies in villages and propagating tourist’s attractions.
10- Not using or emphasizing technology in great details, imagining its comfortableness and welfare utilities, due to visual pollution. Because ecotourists prefer observe genuine nature and wild life species (animal and plants) to welfare and resting.
11- Holding conferences and meetings to emphasis ecotourism in academic and scientific associations, and benefiting researches, geographical experts ideas, climatic scientists, village planners and natural sciences.
12- Not destroying and pressing nature and preserved regions ecosystems for economic exploitation
13- Investing and cooperation of rich residents and investors.
14- Increasing residents awareness of village valuable context and understanding of ecotourism.
15- Devoting employees work field to valuable context village affairs, in related organizations to elicit exact statistics of village and tourists.
16- Informing and guide sign installation to show barriers and paths and preventing tourists from confusion and losing their time also Installation of brief information signs on ecotourism stations.
17- Information and training host society about sightseer lifestyle and needs, their proper social behavior and interaction with different sightseers.
18- Developing travel agencies offices and centers with government facilities to propagate sightseeing and facilitating ecotourists access to safe and inexpensive transportation systems.
19- Forming ecotourists guides by the cooperation of government organizations to better introduce tourism regions.

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BIOMIMICRY AND ECHOMIMICRY IN IRANIAN ARCHITECTURE AND ITS SIMILARITY WITH THE IRANIAN DESERT ARCHITECTURE

Kianoosh Yousefi
Master of Architecture, Islamic Azad University, Kerman Branch

Emad Rezaei Rad
Master of Architecture, College of Fine Art, University of Tehran

ABSTRACT
Iranian desert architecture contains unique features that in addition of aesthetic needs also matches its natural and ecological capacities. In fact, many of the techniques used in this architecture include modern architectural concepts such as bionics and ecotect. Studies show that due to the growth of technology and raised topics and modeling of the nature and preserve natural features and respect to canvas wall keeping with the nature and also existence of suitable sources of energy (solar, wind, water ...) in our country, special features of desert area of Iran and architecture which lies in the context of nature, similarities between biomimicry and echomimicry such as modern science in architecture and Iranian desert architecture can be Found. after getting familiar with the basic concepts and mentioned new technologies in this article, it is hoped that be able to enhance the Iranian architectural values and try to preserve and restore it. May this article link between two generations in architecture.

Keywords: biomimicry, echomimicry, Iranian desert architecture, ecology, bionics, ecology

INTRODUCTION
Man once were proud of his innovation and initiative power, but now come to the conclusion that invention power alone cannot cause survival of the generations on planet and to ensure its survival, he should also think about the lives of other living species.

In this crucial phase Human realized that the secret of survival and living is not in an arrogant individualist and relying on human knowledge, but is in harmony and modeling of nature.

Therefore, it is sought to maintain and try to keep the nature, and form support groups and in addition, depth study of meanings and concepts contained in it. thus, he achieved this entry that There are lessons in nature which originating from them can increase their knowledge day by day and traverse the way more quickly towards scientific horizons.

By looking to background of this entry, in the head columns of Persepolis or its relief can see the entry from the earliest examples of ancient architecture inspired from nature and belief in the gods formed from the pyramids which are indicative of the grandeur of the mountains to Architecture of Iran.

The human need for nature is not summarized in this issue and about 5 million years ago when man clauses were appeared and look for shelter, food and other necessities in nature and over time, he invent ways to combat adverse conditions of nature and vernacular architecture or ecotect was created.

Made fertile and experienced climatic characteristics of human in choosing how to deal with the specific problems of each territory by using elements of the land and construct tools appropriate to their needs in the interaction with nature and climate.
Human attempt to resolve environment anomalies led to numerous innovations in manipulation of the environment.

In general, today's architecture can be considered rely on the crystallization of these interactions with nature and based on vernacular architecture, traditions and culture of different countries.

Since the architecture of Iran, our country, also does not exclude the mentioned rules, one could say that it is a mixture of modeling art from nature and ecology.

**RESEARCH METHOD**

In this study which is an applied research. Surely, collecting the research required material is one of the basic steps and selecting resources has been done based on references and bibliography of books and articles on foreign and domestic valid related to this issue. In this article, information has been collected by using library method. After that, conclusion and analysis of them has been done and eventually, the main guidelines are provided.

The definition of basic concepts:

**BIONIC**

By a deep understanding of nature and attempt to recreate models in order to simulate it, actually we create a plan which as a major force can put plan into motion. A deep understanding of human and human extensive knowledge of the nature in this way are very efficient and profitable (Golabchi, 44: 1391). It should be noted what can lead to create innovative, modern and constructable piece with formation processes of buildings made by humans is inspired by nature and not an imitation of nature (the same: 64). Bionic is science studies of nature's models and inspiration from these plans and processes to solve human problems. Man lived and lives with nature and at the same time, for his better life in it, he does architecture (Mahmudinezhad 121: 1390).

By looking at the various periods of architecture, we will find that reflection of nature in body of building occurred in different forms and how this approach is is one of the most important criteria for understanding the intellectual roots of an architectural style and vision of architect towards the universe and nature. Architect of higher quality seeks primary source means the nature and discover qualities of nature by careful observation of nature. A group of experts in various disciplines consider bionic as science of using the results of evolutionary biology. They believe that bionic task investigates processes and biological structures of materials for future designs. Bionic ideas is based on the fact which evolution is constantly ongoing in nature and life technologies have the best manner and Order towards each other, therefore, its necessary for modern technologies to be modeled from the life evolutionary forms. Other specialists consider bionic as the art of applying knowledge of living systems to solve technological problems and have defined the purpose of nature. They believe that nature without creating pollution produce products that in terms of business functions more important than the production of man-made (Jaleh, 62: 1386).

In the architecture, we need comprehensive research in the nature biological structures for identification and investigation of form. Achieve a complete architecture by studying life and behavior of cohabited creatures will be possible and available (Rahimi, 141: 1387). Also, architecture should respect to herbal and natural patterns.

Calatrava believes that what needs to be done is shaping materials in a way that as response to the action in the different circumstances of new functions have an matching capability, like nature (Mashayekh Fereydani, 64: 1385). Bionic architecture as a sub-discipline of the bionics, is combining art of biology and technology in building.

In this approach, bionic architecture provides possibility of simultaneous design and innovation in two fields of architecture and architectural structures. Enliven the building is one of bionic architectural tendencies (Yazdanfar, 118: 1389). Actually, bionic architecture is benchmarking, inspiration and extraction of creative solutions to innovative issues and ideas of the nature and it is a new way which
looks at the problems of organisms and machines through the collection of researches of biologists, psychologists, mathematicians and engineers (Mahmudinezhad, 428: 1390).

BIOMIMICRY
Biomimicry is an approach in which plants, animals and entire ecosystems have exemplified as a basis for designing (Montazer, Shahbazi, 1).

Biomimicry is also composed of two words, bio means life and mimicry means modeling which is a new science that by inspiring from nature implement projects and processes to solve human problems and reviews on leaves in order to produce solar cells is an example of this cases. So this science can be called innovation inspired by nature (the same, 1).

BIOMIMITIC
In fact, basis of the science is natural biological models which by their physiological study, we can design and build modern technological systems.

Science of Creative innovationology has Categories or numerous sub-disciplines which one of them is creatology of model nature or natural creatology (Golestan Hashemi, 1382, 1379).

Subject of this field is "modeling the nature for creativity and innovation " by analytical study of types of structures, systems and mechanisms available in different parts of nature and organisms by approach of creative modeling and using them in science and technology and in other fields(The same).

DEFINITION OF ECOLOGY
Ecology in Persian is literal translation of its European name that is ecology. The word ecology is composed of two words «oikos» means canvas, home, biological context or location and the word «logos» means identifying, science or knowledge. So in terms of lexical aspect and literal meaning of words forming, ecology means study the location of animals but technically refers to "environment effects on living organisms, living creature effects on the environment and the interrelationships between organisms." (ardakani 1388).

The term ecology was proposed for the first time by German biologist Ernest Hegel in 1869, as the field of new studies in biology. His intention of the ecology was understanding governing interactions between organisms and their environment (The Razaqyan et al., 158: 1391).

BIOMIMICRY
Echomimicry approach in which the vernacular architecture is using as the basis for modeling to design is composed of combination of two words echo means the canvas and mimicry means modeling.

IRAN DESERT
The biggest watershed area of Iran consists of central desert and the area of Loot desert. The central desert of Iran is surrounded by AlborzMountains in the North and Zagros Mountain in the East. The mentioned mountains have prevented the entrance of rainy clouds into the watershed area. The central watershed area has the average height of about 1000 meter above sea level and generally has a considerable variety in height from the sea level, geographical directions, and prevailing winds (Qafari, 2000:34). The amount of rain in central desert of Iran has been estimated to be too little and limited (about 70 millimeter a year). Poor vegetation cover, barren land, and very low density of population, are of characteristics of central desert region (the same resource).

Low humidity and lack of cloud in the sky has resulted in the high temperature change in these areas. High temperature difference between days and nights during hot seasons, intense sunlight (700-800 kilocalories per hour in per square meter) are considered as climatic characteristics of desert regions. Temperatures in different areas of these regions are depended on geographical situation, sea level, and direction and features of winds. Most cities of Iran central zone are located on the edge of deserts.
(Qafari, 2000:63). Geographical location, size of villages and their distances to each other have been directly affected by environmental factors and natural potentials of these regions.

**Figure 1:** Iran Shahdad desert

**ARCHITECTURAL AND CIVIL CHARACTERISTICS OF DESERT AREAS**

Although in many desert parts of Iran, climatic conditions for foundation of a city and settlement are not provided, with the invention of aqueduct the inventory of which by Iranians is obvious, water is transferred from the distances of 20, 30, and 40 kilometers to the earth surface and has been the continuity factor of cities and villages (BastaniParizi, 1987).

**Figure 2:** schematic view of aqueduct operation in providing water in desert

**Figure 3:** the image of corridors of aqueduct under the ground
Traditional cities of desert regions of Iran are mainly made of a compact and contiguous settlement. Providing climatic comfort and saving in energy consumption take place through reducing exposure of levels of solar radiation in urban buildings and settlement and through compact settlement. This principle in the body organization of Iranian urban desert happens through congested residential units in a way that sometimes some residential units are connected to other units even from four sides.

![Figure 4: Yazd as the star of Iran desert](image)

Compact settlement of most cities is enclosed by a green belt of orchards and farmlands as ecological measures. In this way the reflection of sun heat form the thirsty and scorching soil of desert is the least. Green spaces around cities have important roles in protecting central parts against desert winds, dust and dry climate of desert and are important factors in the cities’ natural ventilation (Qafari, 2000: 27).

Networking the roads, land division and segmentation and organization of full and empty spaces follows two completely different methods. Road networks have been created with an organic order and hierarchy according to the tilt and direction of aqueduct water, while segmentation of land is disordered and that of buildings has geometrical order. Existence of indirect, meandering pathways and covered alleys and passages (lean), on the one hand prevent annoying winds and on the other hand due to their great depth, provide the most shade. The way of establishment of sunshades which is a distinctive feature of urban desert, keeps the walking man in a proper sequence in the shade through his direction. In many sunshades, the entrance of several houses are integrated which is important from the sense of neighborhood. Closeness, hierarchy and privacy, and social areas have come true by this urbanization which has resulted in the social survival of desert cities.

In traditional collections using natural resources and energy is one of their principles in construction and spatial organization. Old houses in desert settlements from establishment status are typically in the direction of Qibla. This orientation in terms of climatic has created conditions so that summer spaces and winter rooms are logically placed around a central courtyard.

Central courtyard is the main space of desert homes. Water pond in the middle of the yard, the size of which reaches the most, keeps solar energy in itself, and thus supply of cool and pleasant for each residential unit has become possible through preserving deep courtyards and houses tightly close inside these deep courtyards. Yards that are surrounded with indoor spaces on all sides, deposit cool air of night like a hole and makes use of it during the hot day.(Tahbaz, 83).

One of the common ways in desert architecture that contributes to energy conservation is the use of passive equipment and systems. Installation elements such as “air holes”, “water storages”, “icehouses”, “windy and watery watermills” in desert cities, provide less expensive services that nowadays are provided by electric vehicles by consuming energy.
Air holes are considered as the breathing system of the city. Air holes which are typically considered as the obvious examples of clean energies are related to the hall, spring house, pergola and basement and provide conditions that the flow of air be established inside building and by having connections with natural elements such as pool, garden, trees, basement wall, stream and coastal, has compensated the lack of ground humidity and has provided a pleasant environment during hot and arduous days of summer for the residents.

Beside its function, air hole is the symbol of recognition and social status of its owner which is also realized by its height and type of decoration (the same resource, 131).

In some desert cities, improper winds in summer or winter or lack of financial and technical resources for constructing air hole has led to the construction of wind towers as the most beautiful and most wonderful hallmark of the city. Two perpendicular corridors that with the help of a high fan in an elevated location at the intersection of corridors, sucks the pleasant air of the yard through the openings which face the courtyard to itself and sends out warm air under the ceiling through ventilation. This process is in contrast with the operation of air hole which sucks the pleasant air above the city to itself and sends them to the rooms.
Preserving the coolness of room in summer and retaining its heat in winter in excruciating conditions of desert is an important principle.

Using thick adobe walls and inevitable curve ceilings, which are the only available material in desert, because of its heat accumulation feature and gradual direction of it, acts like a capacitor for preserving heat or the coolness inside the room and the existence of the least number of openings including windows and doors neutralizes this quality. The height of rooms which is the result of the curvature form of ceiling, keeps a large volume of air in itself and prevents rapid heating and cooling of the room (Tahbaz, 86).

Finally in conditions where none of the above mentioned solutions cannot fight the unbearable moments of summer afternoon, cool and wet rooms under the soil which because of the gradual absorption of heat and cold, depreciate severe fluctuation of daily and annual temperature and modify temperature significantly, is the last solution that is used by the people of the desert.

In addition to design and construction with ecological view, the production of building materials takes place with minimum destruction and damage to the environment and with minimum fuel consumption lack of hard and non-absorbable construction wastes. The type of construction materials used in monumentsis mainly clay and brick which generally is gained from the soil resulted from excavation and foundation and have been used in constructing building. In other words, the used material such as “straw” is a byproduct of agriculture. In other words, providing material is all from local sources and is considered domestic.

In the school of desert architecture, disposal does not make sense. Everything is used, even “Kovareh” or the broken or splitted jug as gas an important structural role is assigned to it in constructing the building (Qahramani, 1996: 117). Recycling and re-consumption of building can be considered as another tradition of Iranian architecture and urbanism especially in desert. “Kamva” i.e. the contaminate resulting from the demolition of muddy buildings, gets back to production cycle by farmers and as the finest agricultural soil gets producing role again. At the same time the old mud of orchards are used for production of bricks and creating architectural space which means cycle in nature (the same source, 118).

This approach is in fact due to understanding natural processes. Since there is no waste in nature, a byproduct of any organic is the food of another organic. In other words, natural systems are composed of packaged circles. Clarifying natural circles and processes, revives the designed environment again. This principle is in fact an important principle in ecotact that is clearly seen in Persian architecture.

CONCLUSION
In the previous part it was tried to identify the factors and features in desert architecture which results in in-depth understanding of it. Also the above article aims to find evidence of similarities between desert architecture and modern technologies such as Bio mimicry and Echo mimicry which is the science of imitating from living systems and domestic architecture and in this section we briefly study these signs and then will mention their similarities with modern science.

- In Persian architecture respecting nature and peaceful use of it, was one of its stationary reasons and by getting familiar and understanding this we can understand the rightful place of nature in contemporary architecture of Iran and take nature back to nature.

- Iranian desert areas have specific environmental and climatic characteristics and traditional ecosystems, villages and towns of these areas are located and constructed based on certain principles and are adapted with environmental conditions and ecological capacities.

- Compact design of cities and orientation of passages as the communication arteries and the whole complex being surrounded by orchards and farmlands are ecological measures which are appropriate for climatic conditions of desert.
- Design and construction of buildings with ecologic approach from energy saving view in construction, use of domestic materials, considering the required energy for maintaining and adjustment of environmental conditions with designing empty and full spaces, the fine orientation of the building, making use of appropriate technology of construction by using natural energies are considered as the suitable patterns for stability of architecture.

- Desert buildings are considered as dynamic living organisms because their needs to water and energy are met in their sites and are not only compatible with their climate and site, but also contribute in the environment change.

- Iranian desert monuments like ecosystem cycle do not have waste, and do not produce building products which are not beneficial for environment and health, and provide well-being of residents in an integrated ecosystem and also promote environmental qualities.

- Desert monuments with regard to the identity and cultural, social, religious characteristics are distinct and separable and help a lot to create stability and survival of the environment.

Since energy guarantees the survival of world and the majority of wars these days are to achieve better energy, it would be better to take steps in line with the mentioned modern sciences to energy and food self-sufficiency for future world. By using Bio mimicry and Eco mimicry sciences and considering Persian culture we can take a huge step towards the revival of Persian architecture.

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DETERMINING FACTORS PROMOTING DESIGN OF MUSIC CENTERS IN NATIONAL URBAN SPACES (STATISTICAL POPULATION: CITIZENS OF SARI- PROVINCIAL CAPITAL OF MAZANDARAN, IRAN)

Somayeh Zakiyan Galogahi
MSc in Architecture Engineering, Instructor of Sama Technical and Vocational College, Islamic Azad University, Sari Branch, Sari, Iran
s_zakiann@yahoo.com

Majid Alishah
Graduate Student, Department of Architecture, Azad University of Sari

Rohallah Amoo Zadeh
Graduate Student, Department of Architecture, Azad University of Sari

Sayed Rasool Rassoli
Graduate Student, Department of Architecture, Azad University of Sari

ABSTRACT
Music is a clear reflection of people's life and culture in a country that due to its capacities can contribute to introduction and transference of the nation's culture. Applying descriptive-analytical method and with the aim of identifying determining factors promoting the design of music centers in national urban spaces, this paper was prepared. In the current research, people living in Sari-provincial capital of Mazandaran, Iran- were chosen as statistical population. According to Morgan's table, this population equals 389 samples (involving 48.3% men and 51.7% women). The collected data was tested applying SPSS and the results indicated that in music center spaces, qualitative factors are of higher importance than individual and social factors. Here is a hierarchic list of items respondents referred to in their responses: Aesthetics in the form of buildings by combination of architecture and music in the building; Proving people with psychological security in populous areas such as music centers; creating dynamism and attraction by good lighting and music at night; including inexpensive spaces for music practice in music centers; Inviting great music teachers and masters to make music centers more successful, and using happy and energetic colors in the design of music centers. These items emphasize the importance of considering the design of optimum music centers in country.

Keywords: music, public spaces, music center, urban spaces

INTRODUCTION
Music is one of the oldest human arts that was formed in the primitive culture and then has evolved through the time. Compared to other forms of art, music, which is supposed to be the simplest and the easiest way for transferring human feelings and emotions, has been more successful in gaining human's attention (Rezaie Nia, 2003:107) and it is considered as the cultural background of every nation. However, in some countries it may contradict religious values and ideals. In today modern world, given the big money spent on culture building and preserving vernacular culture and its introduction to other societies, music as a determining factor and as a symbol representing feelings, thoughts, and spirits can play an important role in creating balance and calming people's spirits (Aqa Ahmadi et al, 2013, 11-13).
Today, with information and communication technology advancement, the interest in music has had a growing trend and has become an inevitable part of everyday life (Denora, 2004). Due to the large population of young people in communities who are considered the main consumers of music (ReK. Hadykson and Dixie, 2007) attention to the tastes, trends and needs of this population is essential (Qasemi and Mir Akuri 2012:62). Young people tend to consume music and are committed to it, however due to the fact that in the last two centuries with the growing urbanization (Azizi and Malek Mohammad Nejadi, 2007) which has caused crises in their lives, and therefore has caused them to be far away from each other (Eini Far, 2000 ), and this in turn has contributed to a destruction of the social relations and ignoring of the collective culture in the society, it seems necessary to establish public places like music centers so as to promote music culture in the communities of today world. Places where music is heard by the youth and is considered as a cultural source in the society. In such cultural spaces, music generators and young consumers both are aware of their feelings and try to build the social world where they uncover their identities (Bennett, 2000) to transfer a sense of tranquility to the society. This research aims to determine whether or not music centers can help create spaces that are open to people of different folks and also help create spaces that make idea exchange possible and form sociocultural networks (Hajer & Reijndropp, 2011). Thus, such interactions and experiences among different people and groups lead to receiving collective identity, self-respect, improving social skills and collaborative partnerships (Douglas, 2003). However, given the lack of scientific studies and research conducted in this field in the author's country, this research is to develop appropriate strategies by identifying determining factors in improvement of music centers.

STATEMENT OF THE PROBLEM

Music has always been one of the greatest companion of and the closest form of art to man and throughout the history, from rituals to concerts and plays associated has been with him (MahdaviNezhad, 2004:88). Music is a meaningful creative act that has a lot of power in transferring ideas from one mind to another (Iman et al. 2010:87). Given the development and diversity and also the Institutionalization of most needs and their satisfaction in the modern societies, few people can be found who are not interested in this kind of music and evade from consuming such cultural goods (Aqa Ahmadi et al. 2013:10). We; unconsciously, consume music and sometimes we sing along with it, so that this public tendency directs the youth of the country to music and it should be noted that music consumption is an important form of youth leisure spending (Qasemi and Samim, 2009). Rather than a means of enjoying leisure time activity, Music; however, is a means for forming individual feelings and identities. In fact, through the music people and groups consume, they reflect their distinction, identity, class, race etc. (Aqa Ahmadi et al 2013). Without doubt one of the artistic elements that can be used to evaluate the culture of a nation and gain a lot of information on its customs and beliefs is the music of that nation. Music can also be a source for satisfying people's and different social classes needs. Indeed, we can scarcely find ceremonies without music and we can dare to say that it is clearly seen in all get-together, from political and athletic ceremonies to parties or even in the privacy of individuals ( Qasemi and MirAkori, 2012:62). In this country, no weeding is held without music, and pilgrims are welcomed by music, also it is clear that Muharram and its related ceremonies cannot be considered without music. However, given the cultural and religious constraints of the author's country, the essence of live music and music centers should be in such a way that does not conflict with cultural standards of the society. In this research we are to study appropriate solutions with the help of respondents and we will attempt to answer the following questions:

- To what extent are social and demographic characteristics of citizens effective in the design of a music center?
- To what extent are qualitative properties of space and aesthetics important in the design of music center?
- Do individual and the qualitative factors have the same role in the design of a music center?
LITERATURE REVIEW

Table 1. A summary of studies conducted regarding determining factors leading to a better design of music centers.

<table>
<thead>
<tr>
<th>researcher</th>
<th>Subject</th>
<th>Results</th>
</tr>
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<tbody>
<tr>
<td>1 Satari et al (2012)</td>
<td>A study of similarities between Iranian music concepts and architecture of Iranian gardens (case study: Kashan Fin Garden)</td>
<td>They argued that Architecture and music, as two aspects of the art, have similar effects. Although music is felt by the phenomenon of hearing and architecture by vision, both arts have a lot in common that are explained in this research.</td>
</tr>
<tr>
<td>2 Sohangir and Borazjani (2012)</td>
<td>A Comparative Study of the conceptual link between music space and architecture</td>
<td>In this study, the relationship of space concept in music and architecture in two periods of time and the conceptual links between these two have been investigated</td>
</tr>
<tr>
<td>3 Vadamir et al (2011)</td>
<td>Youth and pop (A study of sociocultural factors related with the Tarbiat Moalem students' orientation toward Pop</td>
<td>He suggested that music and its evolution and concepts don't happen in sociocultural vacuity but it is a sociocultural product.</td>
</tr>
<tr>
<td>4 Qasemi et al (2008)</td>
<td>A study on the relationship between social stratification and cultural consumption using data on the use of music in Tehran</td>
<td>It is argued that the higher the status of people, the higher their tendency to consume a variety of music belonging to the elite culture and the lower their tendency to consume the music of mass culture. In comparison with class differences (differences in economic status) people's different educational level can better predict the type and amount of culturally consumed music in individuals.</td>
</tr>
<tr>
<td>5 Atarbak (2008)</td>
<td>Islamic reaction to the music of today</td>
<td>An analysis of the new music of the Arab world and a focus on what they control in order to limit music phrases and the function of religious actors</td>
</tr>
<tr>
<td>6 Barondragett (2006)</td>
<td>Music in Southeast Asia and the fear of Muslim female voice</td>
<td>It has been stated that in terms of religion, art of incitation in traditional performances or popular music is an immoral behavior. Music and dancing in the Muslim world, especially fear of the power of sensuous, has been passionately debated in religious treatises</td>
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</tbody>
</table>
He emphasized the role of geometry in compliance and proximity and studied examples of music that have become architecture in his and other architects' works. He also argued that the relationship between music and architecture is a virtual and mental and not a real relationship.

He raised interesting questions about the nature of musical works, and linked its authenticity to performance, traditional music, and records.

He argued that music is produced and its consumers are youths and both the producer and consumer are aware of their feelings and help create a social world where they can employ their identities.

**THEORETICAL FOUNDATIONS**

**Music**

Without a doubt the most magnificent symphony of creation is nature. God's nature is full of music. Flowers and grass dancing in the wind breeze, the sound of waves on the beach, the song of rivers flowing and sounds of waterfall, birds singing in the garden all are a great symphony of the nature of the masterpiece of creation (RezairNia, 2003,107). Music is an emotional reaction that occurs in the experience particularly the strong ones. How is music influencing us? It can be said that music is one of the most effective emotional experiences in people (Gabrielsson, 2001, 487) and in different cultures, it visualizes different ways of imagining the sounds as music. Therefore, each culture creates its own distinctive patterns out of the difference between image and experience that reflects theoretical thought over music (Cook, 1990. 265). Music formation dates back to the time when man expressed his aspirations, sorrows and joys.

**Music in Iranian culture**

In Iranian culture, music has had a deep bond with vernacular culture and religious and spiritual affiliations of the Iranians over the years. A bond which is not weaker, if not stronger, than the link between other forms of Iranian arts with Islamic culture. Islamic philosophy and mysticism can affect the music efflorescence in two ways. The first is that Islamic values provides accurate and efficient way for training music by creating human and spiritual relationship between master and pupil. And the second is that theosophical lessons can create a strong and effective link between masters and public audiences by directing music to spiritual field (MehdiNezhad,2004,88). In traditional culture, mysticism and music have always been alongside taste and Sama (Sufism) and mystical passion (Motahari Elhami, 2003,96) in a way in which words, moving images and dance work together (Cook, 2000 and its manifestation in Sama which is known as a particular liturgy, consisting of prayers, litanies, singing, music and sometimes dance and integrating music into the practice of meditation is an important aspect of contemplative life in Islamic mysticism (Lewisohn, 1997). In addition, Molana repeatedly introduced music as a means of communication with the supernatural world in Shams and Masnavi-e- Manavi and referred to it as the best way of stimulating divine thoughts and escaping from material desires that was used in dance and Sama and was fully a ritual tool (MehdiNejad, 2004, 89). In fact it can be said that music is somehow derived from religion. Music at the outset seems to have a religious aspect and is an expression of beliefs, desires and moods and the means to satisfy inner needs by which sorrow, joy and prayers can be shown (Rezaie Nia, 2003).
Music link with society
The fact that music is an emotional reaction that occurs in experiences specifically the strong ones shows how music influences us. Therefore, it can be argued that music is one of the most effective emotional experiences in people (Gabrilson, 2001, 487). Now in response to what music is for, how it works and who can teach us it, we can say that human romantic feelings for evaluation of music is not mere entertainment, but as something fundamental to our experience of listening and communicating in sound and art that has a profound influence on society (McQueen, 1990). The role of our emotion in music composition, the ways in which emotions can be linked through the music is the use of music to express feelings in cinema, theater and music that directs and influences our emotions (Jaslin, Seloboda, 2001, 487). However, music in today world is an important experience. Music, in fact is the successor to tone over time (Stur, 1992), and due to its harmonious, balanced and proportional sounds, which has a natural link with the human spirit, caused human to be attracted to balanced body movement and enjoy the harmonious sound of water flowing in streams and falling from waterfalls and also feel a sense of joy by listening to rhythmic songs (Motahari Elhami, 2003,98). Music is food of soul, and no society can imagine itself without this intellectual product.

Consumers' view on music
Music is a part of human artistic activity and perhaps it has received more attention than any other artistic production. Today we can hardly find a place where music is not present; it is everywhere in party, mourning, restaurant, subway station, elevator, taxi, waiting room, TV commercial, Cinema etc. Music is flowing in everyday life and we inevitably consume it in all different places, however it's never heard clearly, and even sometimes we hum it unconsciously; and simply our life is integrated with music (Fazeli, 2005, 28). Although most adolescents and young people are interested in music and actually listen to the music as a part of their daily routines, music being played from the local media, has been less based on their demands and this can be a reason why they try to satisfy their needs in this field from different channels (Toosi and Yahak, 2014, 8). In other words, keeping in mind their tastes and preferences in music, we can realize their social status in society (Bryson, 1997, 114).

Public places in urban areas
Today, with the rapid growth of urban populations, people have always been looking for ways to reduce the negative effects on health of their individual and social life. Among the most important factors that can play a key role in reducing these effects, are public and communal spaces (Kashefi et al, 2012, 7). In these spaces, people presence and their active role in communal spaces come from a sense of place and place itself, due to limitation it puts on social relations in a specified realm, creates and strengthens the sense of belonging to the group, and therefore improves face to face relations (Sarmast and Motavaseli, 2010) and plays an important role in creating a sense of community (Huang, 2006). Moreover, it can be considered as a place where people gathering can enliven urban spaces (Rafiean and Khodaie, 2004).

RESEARCH METHODOLOGY
According to the nature, subject and objective predicted for this research, we could say it is a descriptive-analytical research and can be categorized as applied research studies. Since questionnaire and interview were used for collecting required data, this research can be survey research. Required data were collected through both libraries and surveys. Statistical population in this research is all citizens living in Sari- provincial capital city of Mazandaran. Applying Morgan table, 389 cases were selected by systematic random sampling and then were directly questioned. Using data collected under SPSS, Kolmogorov Smirnov test (Non-parametric binomial), Binominal Test and Pearson correlation, the relationship between variables were tested.

HYPOTHESIS AND DISCUSSION
Results are the most important part of research that lead to the development of hypotheses and add new information to past knowledge with the help of research theories (Hafeznia, 2009).

Table 2 qualitative characteristics of the research samples

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The normality of data distribution (Kolmogorov–Smirnov test)

Most statistical tests including parametric tests are based upon the normality of data distribution and they are applied with this presumption that data distribution in a community or in samples selected from the community follows a normal distribution. Thus, before conducting any statistical analyses on variables, analyzers need to know variables type of distribution. Applying Kolmogorov–Smirnov test, we can achieve this objective. In Kolmogorov–Smirnov test, null hypothesis is that data follow a normal distribution; on the other hand, the alternative hypothesis is that data don't follow a normal distribution. According to the table presented below, as it can be seen in this test, the probability level and P value is more than error level in all variables (0.05). Given the P value, Null hypothesis is not rejected and so data distribution is considered to follow a normal distribution. Consequently, non-parametric tests have been used for testing research hypotheses.

Table 3  Kolmogorov–Smirnov test results for evaluating the normal data distribution

<table>
<thead>
<tr>
<th>variable</th>
<th>number</th>
<th>Standard deviation</th>
<th>Z (Kolmogorov–Smirnov)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors affecting promotion of quality</td>
<td>36.3</td>
<td>2.65</td>
<td>0.644</td>
<td>0.632</td>
</tr>
</tbody>
</table>

Source: author (2016)

Kolmogorov–Smirnov test is not significant for factors affecting promotion of quality (p=0.632). Thus it can be concluded that above variables enjoy normal distribution and so we can apply parametric analysis.

The reliability of measurement tools
Reliability is a tool that is repeatable and can be used for measuring the similar outcomes. In this regard, reliability can be estimated through different methods among which, Cronbach alpha is the very popular in controlling questionnaires reliability (Hafeznia, 2008, 155).

**Table 4  The questionnaire individual and social factors reliability**

<table>
<thead>
<tr>
<th>Row</th>
<th>Individual and social factors affecting the extent to which people welcome the space</th>
<th>Cronbach alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The effect of users’ individual characteristics (age, education level, gender etc)</td>
<td>1.19</td>
</tr>
<tr>
<td>2</td>
<td>The effect of economic status (people's income level) on the extent to which students welcome music and people attend concerts</td>
<td>1.04</td>
</tr>
<tr>
<td>3</td>
<td>Users' sociocultural conditions (the effect of religious and popular beliefs…</td>
<td>1.03</td>
</tr>
<tr>
<td>4</td>
<td>Satisfying citizens' spiritual needs and providing their psychological comfort (especially youths) when attending concerts and music centers</td>
<td>1.05</td>
</tr>
<tr>
<td>5</td>
<td>The effect of the sense of peace experienced by people listening to music in their leisure time.</td>
<td>1.01</td>
</tr>
<tr>
<td>6</td>
<td>The effect of religious constraints on playing and listening to music or performing a concert (music from and ideological viewpoint)</td>
<td>1.08</td>
</tr>
<tr>
<td>7</td>
<td>Evaluation of people's tendency (especially youths) to attend concerts</td>
<td>1.01</td>
</tr>
</tbody>
</table>

Source: author (2016)

**Table 5  The questionnaire qualitative factors reliability**

<table>
<thead>
<tr>
<th>Row</th>
<th>factors affecting the extent to which people welcome the space</th>
<th>Chronbach alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The effect of colors used in the design of music centers (inside and outside the building such as using happy and energetic colors)</td>
<td>1.03</td>
</tr>
<tr>
<td>2</td>
<td>Adding dynamism and attraction to the space by good lighting and music at night in order to attract more visitors</td>
<td>1.02</td>
</tr>
<tr>
<td>3</td>
<td>Creating visual attractions and appropriate views such as green space and fountain as well as playground for children</td>
<td>1.17</td>
</tr>
<tr>
<td>4</td>
<td>Availability of outdoor spaces for holding concerts, ceremonies (harvest), traditional dancing, religious ceremonies (Tazieh -Passion Play) and street performances</td>
<td>1.19</td>
</tr>
<tr>
<td>5</td>
<td>Availability of commercial spaces (selling music-related stuff such as poster, CD and different instruments etc.).</td>
<td>1.09</td>
</tr>
<tr>
<td>6</td>
<td>Providing people's psychological security in such populous spaces as music centers.</td>
<td>1.14</td>
</tr>
<tr>
<td>7</td>
<td>Adding variety to the space by running coffee shops, restaurants and communal spaces for having interaction in order to attract all groups.</td>
<td>1.15</td>
</tr>
<tr>
<td>8</td>
<td>Separating children's pace from adults' along with keeping relationship in music centers</td>
<td>1.13</td>
</tr>
<tr>
<td>9</td>
<td>Inviting great music teachers and masters to make music centers more successful (to perform music, give lecture and teach etc.)</td>
<td>1.16</td>
</tr>
<tr>
<td>10</td>
<td>Including inexpensive spaces for music practice in music</td>
<td>1.08</td>
</tr>
</tbody>
</table>
Table 4 and 5 demonstrate Cronbach coefficient alpha in each section of the questionnaire. According to these tables, all items have acceptable reliability (above 0.7).

**Evaluation of the research main hypothesis**

**H0** - Individual and social factors don’t have similar roles as qualitative factors in designing music centers.

**H1** - Individual and social factors have similar roles as qualitative factors in designing music centers.

Table 6 "Results of Binominal test for the comparison of frequency of responses less than average with responses in average and above average, regarding music centers"

<table>
<thead>
<tr>
<th>Category</th>
<th>N</th>
<th>Observed Prop.</th>
<th>Test Prop.</th>
<th>Exact Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesis Group 1</td>
<td>no</td>
<td>322</td>
<td>.83</td>
<td>.50</td>
</tr>
<tr>
<td></td>
<td>yes</td>
<td>67</td>
<td>.17</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>389</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: author, 2016

Results of table 2 show that the frequency of responses more than average was 389(83%). Given the fact that P value is less than 0.05, the frequency difference in 2 groups turned out to be significant at
99%. Therefore, H0 is Individual and social factors don't have similar roles as qualitative factors in designing music centers.

**The evaluation of research data using Pearson Correlation Coefficient**

Evaluation was conducted using Pearson Correlation Coefficient. Pearson Correlation Coefficient is a measurement in which correlation between two or more variables is studied. In this research, researcher aims to know if a change in a variable can cause a change in other variables, and if so, how and to what extent. Finally variables were ranked using Friedman test.

**Table 7** Ranking of individual and social factors affecting the extent to which people visit music centers

<table>
<thead>
<tr>
<th>Row</th>
<th>Individual and social factors affecting the extent to which people welcome the space</th>
<th>Significance level</th>
<th>Pearson Correlation coefficient rate</th>
<th>Number</th>
<th>Accepted/Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The effect of users' individual characteristics (age, education level, gender etc)</td>
<td>0.4</td>
<td>0.00</td>
<td>389</td>
<td>Accepted</td>
</tr>
<tr>
<td>2</td>
<td>The effect of economic status (people's income level) on the extent to which students welcome music and people attend concerts</td>
<td>0.35</td>
<td>0.05</td>
<td>389</td>
<td>Accepted</td>
</tr>
<tr>
<td>3</td>
<td>Users' sociocultural conditions (the effect of religious and popular beliefs…)</td>
<td>0.24</td>
<td>0.03</td>
<td>389</td>
<td>Accepted</td>
</tr>
<tr>
<td>4</td>
<td>Satisfying citizens' spiritual needs and providing their psychological comfort (especially youths) when attending concerts and music centers</td>
<td>0.65</td>
<td>0.05</td>
<td>389</td>
<td>Accepted</td>
</tr>
<tr>
<td>5</td>
<td>The effect of the sense of peace experienced by people listening to music in their leisure time.</td>
<td>0.34</td>
<td>0.00</td>
<td>389</td>
<td>Accepted</td>
</tr>
<tr>
<td>6</td>
<td>The effect of religious constraints on playing and listening to music or performing a concert (music from and ideological viewpoint)</td>
<td>0.26</td>
<td>0.06</td>
<td>389</td>
<td>Accepted</td>
</tr>
<tr>
<td>7</td>
<td>Evaluation of people's tendency (especially youths) to attend concerts</td>
<td>0.62</td>
<td>0.00</td>
<td>389</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Source: author, 2016

**Table 8** Ranking of qualitative factors affecting the extent to which people visit music centers

<table>
<thead>
<tr>
<th>Row</th>
<th>Qualitative factors affecting the extent to which people welcome</th>
<th>Significance level</th>
<th>Pearson Correlation</th>
<th>Number</th>
<th>Accepted/Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: author, 2016
<table>
<thead>
<tr>
<th></th>
<th>the space</th>
<th>coefficient rate</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The effect of colors used in the design of music centers (inside and outside the building such as using happy and energetic colors)</td>
<td>0.38</td>
<td>0.00</td>
<td>389</td>
</tr>
<tr>
<td>2</td>
<td>Adding dynamism and attraction to the space by good lighting and music at night in order to attract more visitors</td>
<td>0.62</td>
<td>0.00</td>
<td>389</td>
</tr>
<tr>
<td>3</td>
<td>Creating visual attractions and appropriate views such as green space and fountain as well as playground for children</td>
<td>0.27</td>
<td>0.03</td>
<td>389</td>
</tr>
<tr>
<td>4</td>
<td>Availability of outdoor spaces for holding concerts, ceremonies (harvest), traditional dancing, religious ceremonies (Tazieh - Passion Play) and street performances</td>
<td>0.75</td>
<td>0.04</td>
<td>389</td>
</tr>
<tr>
<td>5</td>
<td>Availability of commercial spaces (selling music-related stuff such as poster, CD and different instruments etc.)</td>
<td>0.23</td>
<td>0.03</td>
<td>389</td>
</tr>
<tr>
<td>6</td>
<td>Providing people's psychological security in such populous spaces as music centers.</td>
<td>0.87</td>
<td>0.01</td>
<td>389</td>
</tr>
<tr>
<td>7</td>
<td>Adding variety to the space by running coffee shops, restaurants and communal spaces for having interaction in order to attract all groups.</td>
<td>0.45</td>
<td>0.00</td>
<td>389</td>
</tr>
<tr>
<td>8</td>
<td>Separating children's pace from adults' along with keeping relationship in music centers</td>
<td>0.76</td>
<td>0.00</td>
<td>389</td>
</tr>
<tr>
<td>9</td>
<td>Inviting great music teachers and masters to make music centers more successful (to perform music, give lecture and teach etc.)</td>
<td>0.87</td>
<td>0.00</td>
<td>389</td>
</tr>
<tr>
<td>10</td>
<td>Including inexpensive spaces for music practice in music centers</td>
<td>0.23</td>
<td>0.02</td>
<td>389</td>
</tr>
<tr>
<td>11</td>
<td>The existence of fairs relating to music, instruments and galleries</td>
<td>0.56</td>
<td>0.00</td>
<td>389</td>
</tr>
<tr>
<td>12</td>
<td>Easy access to music center and its proximity to main</td>
<td>0.23</td>
<td>0.02</td>
<td>389</td>
</tr>
</tbody>
</table>
The existence of a friendly space with architectural elements for easing interaction and creating the sense of happiness

Aesthetics in the form of buildings by combination of architecture and music in the building

Creating opportunities to enjoy music in all seasons (semi-open spaces design etc.).

<table>
<thead>
<tr>
<th>response items</th>
<th>Number</th>
<th>0%</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
<th>100%</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 The effect of users' individual characteristics (age, education level, gender etc)</td>
<td>38</td>
<td>9.8</td>
<td>12.9</td>
<td>24.9</td>
<td>35.7</td>
<td>16.7</td>
<td>3.33</td>
</tr>
<tr>
<td>2 The effect of economic status (people's income level) on the extent to which students welcome music and people attend concerts</td>
<td>8</td>
<td>2.1</td>
<td>11.1</td>
<td>22.6</td>
<td>32.9</td>
<td>31.4</td>
<td>4.07</td>
</tr>
<tr>
<td>3 Users' sociocultural conditions (the effect of religious and popular beliefs...)</td>
<td>10</td>
<td>2.6</td>
<td>16.5</td>
<td>31.9</td>
<td>34.2</td>
<td>14.9</td>
<td>3.47</td>
</tr>
<tr>
<td>4 Satisfying citizens' spiritual needs and providing their psychological comfort (especially youths) when attending concerts and music centers</td>
<td>8</td>
<td>2.1</td>
<td>10.0</td>
<td>15.9</td>
<td>32.4</td>
<td>39.6</td>
<td>4.63</td>
</tr>
<tr>
<td>5 The effect of the sense of peace experienced by people listening to music in their leisure time.</td>
<td>6</td>
<td>1.5</td>
<td>4.1</td>
<td>17.0</td>
<td>32.1</td>
<td>45.2</td>
<td>4.67</td>
</tr>
<tr>
<td>6 The effect of religious</td>
<td>12</td>
<td>5.1</td>
<td>11.6</td>
<td>128</td>
<td>82</td>
<td></td>
<td>3.63</td>
</tr>
</tbody>
</table>

Table 9 percentage frequency and ranking factors affecting the extent to which people welcome a music center

Frequency distribution and the percentage of responses made by samples

In the survey conducted on the factors affecting the extent to which people welcome a music center, qualitative and individual/social factors were tested separately and percentage frequency of responses made by samples were investigated and then ranked using Friedman Test.
| constraints on playing and listening to music or performing a concert (music from and ideological viewpoint) | Percentage | 3.1 | 13.1 | 29.8 | 32.9 | 21.1 |
| 7 Evaluation of people's tendency (especially youths) to attend concerts | Number | 8 | 20 | 81 | 161 | 119 |
| | Percentage | 2.1 | 5.1 | 20.8 | 41.4 | 30.6 |

Source: author, 2016

Table 10 Percentage frequency and ranking factors affecting the extent to which people welcome the space

<table>
<thead>
<tr>
<th>Response items ranking factors affecting the extent to which people welcome the space</th>
<th>0</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
<th>100%</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 The effect of colors used in the design of music centers (inside and outside the building such as using happy and energetic colors)</td>
<td>number</td>
<td>6</td>
<td>41</td>
<td>88</td>
<td>137</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>percentage</td>
<td>1.5</td>
<td>10.5</td>
<td>22.6</td>
<td>35.2</td>
<td>30.1</td>
</tr>
<tr>
<td>2 Adding dynamism and attraction to the space by good lighting and music at night in order to attract more visitors</td>
<td>number</td>
<td>8</td>
<td>26</td>
<td>70</td>
<td>136</td>
<td>149</td>
</tr>
<tr>
<td></td>
<td>percentage</td>
<td>2.1</td>
<td>6.7</td>
<td>18.0</td>
<td>35.0</td>
<td>38.3</td>
</tr>
<tr>
<td>3 Creating visual attractions and appropriate views such as green space and fountain as well as playground for children</td>
<td>number</td>
<td>35</td>
<td>31</td>
<td>80</td>
<td>142</td>
<td>101</td>
</tr>
<tr>
<td></td>
<td>percentage</td>
<td>9.0</td>
<td>8.0</td>
<td>20.6</td>
<td>36.5</td>
<td>26.0</td>
</tr>
<tr>
<td>4 Availability of outdoor spaces for holding concerts, ceremonies (harvest), traditional dancing, religious ceremonies (Tazieh -Passion Play) and street performances</td>
<td>number</td>
<td>38</td>
<td>32</td>
<td>91</td>
<td>141</td>
<td>87</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>6.8</td>
<td>8.2</td>
<td>23.4</td>
<td>36.2</td>
<td>22.4</td>
</tr>
<tr>
<td>5 Availability of commercial spaces (selling music-related stuff such as poster, CD and different instruments etc.)</td>
<td>number</td>
<td>26</td>
<td>65</td>
<td>140</td>
<td>103</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>percentage</td>
<td>6.7</td>
<td>16.7</td>
<td>36.0</td>
<td>26.5</td>
<td>14.1</td>
</tr>
<tr>
<td>6 Providing people's psychological security in such populous spaces as music centers.</td>
<td>number</td>
<td>18</td>
<td>35</td>
<td>42</td>
<td>132</td>
<td>162</td>
</tr>
<tr>
<td></td>
<td>percentage</td>
<td>4.6</td>
<td>9.0</td>
<td>10.8</td>
<td>33.9</td>
<td>41.6</td>
</tr>
</tbody>
</table>
RESULTS
Results from data indicate that from 389 cases selected as statistical population, 48.3 % were men and 51.7% were women which show an approximate balance between genders. The items respondents referred to in their responses can be listed hierarchically as: Aesthetics in the form of buildings by combination of architecture and music in the building; Proving people with psychological security in populous areas such as music centers; creating dynamism and attraction by good lighting and music at night; including inexpensive spaces for music practice in music centers; Inviting great music teachers and masters to make music centers more successful, and using happy and energetic colors in the design music centers. Additionally, results demonstrate that qualitative factors are of higher importance compared to individual/social factors and this emphasizes the necessity of considering appropriate design of music centers in country. Although it is visible that people attend outdoor live music concerts, it cannot be proof of public welcoming and people's satisfaction with such spaces.
However, despite the insufficient spaces required in country interest to music can motivate people to attend such places. Given the research findings, following are suggested:

1. According to modern life and change in people's lifestyle, creating visual attractions such as using appropriate lighting during night hours in open and semi-open spaces of music centers we can make social groups have better interactions.

2. Creating multifunctional spaces in music centers and giving attention to various activities (an opportunity for all people to use the space in group) and also combining the building with the outer space and holding a special ceremony in it, we can build a positive and memorable image in people's mind.

3. Due to gorgeous styles formed inside and outside the building and also circulation design with upward flow, combining music and architecture can make the music center be dynamic and attractive.

4. Attention to individual and group security in populous spaces like music center can add a sense of peace to the space and this, itself, reduce psychological tension at the time of performance in music center.

5. Using architectural elements can make the music center like a friendly space where interaction occurs and this can increase people's satisfaction and will be an appropriate place for everyone.

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STUDYING THE MYTH OF WATER IN ANCIENT IRAN AND ITS RELATIONSHIP WITH RAIN-MAKING RITUALS

Hasan Goharpour
Department of Research in Art, Art and Architecture Faculty, Islamic Azad University Yazd Branch, Yazd, Iran

Vahide Jalalkamali
Department of Research in Art, Art and Architecture Faculty, Islamic Azad University Yazd Branch, Yazd, Iran

ABSTRACT
Iran have always been conflicting with drought. As Darius asks Ahura Mazda in his inscription in Takhte Jamshid to protect Iran from drought and lies. Creating myths is the first reaction of man’s mind at the face natural disasters, because the primary human were confused in understanding the causes of these occurrences, thus, their reaction were infused with fear and this fear has caused them to assume a metaphysical god for each phenomenon and seek shelter from him. As time flows, it becomes clearer that myths are a land’s valuable resources which can shed a light on the dark and unknown past. In the fables of creation, Water is one of the first things to be physically created and this is because of the significance of this life giving element. Thus, it is not far from expectation that the rain-making rituals and holding them during droughts have been always common in the ancient history of Iran.

Keywords: Myth, Water, Anahita, Rain-making ritual, Ancient Iran

INTRODUCTION
Myth originates with the word “Historia” meaning “story” and “History”; In the Greek language, “Mythos” means “Description”, “News” and “Story” which shares a root with the word “Mouth” meaning “Expression”, “Narration” and “Mouth”.

The primary man, because of not understanding and the lack of dominance over nature and not knowing the causes of natural disasters such as eclipse, earthquake, drought, thunder and lightning, flood, seasonal changes and etc. have always been confused and as they didn’t have the power to solve this confusion, based on their imaginations and thoughts, they would imagine a god for each of these phenomena. For each good phenomenon, there was a rewarding god with a beautiful and decent appearance, who could grant people their wishes. However, there were an unpleasant and petrifying god with an ugly and terrifying look for every evil phenomenon, whom people had to take shelter from the gracious gods and keep them satisfied with granting them sacrifices and gifts.

Thus, myth is a symbolic story about gods, angels and metaphysical creatures whom are present in a society’s effort in describing the universe. Religious beliefs of the primary man begins with fables and in the latter eras they take the form of religions. Water which because of its significance in creation of life has always been one of the major rituals and beliefs of societies since the dawn of man. Rituals were held in the harsh days of drought in order for man to ask the god of water and rain for blessings to fall on the prayer’s dry land.

STATEMENT OF THE PROBLEM
WATER IN THE FABLES OF CREATION
Water is one of the classical elements (water, wind, earth, fire). The Persian word “آب” originates from “ab” in the Avestai language and from “apa” in Sanskrit, from the word “api” in ancient Persian and finally from the word “ap” in the language of Pahlavi.

Because of Water’s significant role in the Iranian culture; it has been the root for many symbols, myths and rituals and since the ancient Mithraism era until today, this vital element has been mentioned in the folklores expressing the basic thoughts of Iranians. This life giving element has always been of great state and value in ancient Iranian’s beliefs and it was accounted as a safe shelter for Zoroaster’s children, whom Evil could never help but offence them. (Qureyshi, 2001: 221-226).

The significance of water in the minds of ancient Iranians is so much that the Greek historians have imputed the veneration and praise of water to Iranians. It is evident in the history of Herodotus, which is writer: “Iranians hold water much dear. They sacrifice and bring gifts for it as for other classic elements such as fire, wind, etc. They do not wash their hands in it and they do not defile it with filth.” (Afifi, 1995: 402)

This element is of great position in the enlightening religion of Islam as well. Water heals and brings life to people and it is mentioned as “blessing” and “life giving” in the holy book of Quran. Aside from this, water plays an undeniable role in the Iranian culture. In original Iranian arts such as architecture and miniature, water is counted as a vital element.

Ancient Iranians used to pledge their vows to a number of holy elements including water. He who breaks a vow or is accused of breaking a promise must pass the test of Water or ritual tests (Amuzegar, 2007: 386).

Another role of this element is the role of purification and cleansing. In addition of external and seeming cleansing, water also cleanses women’s womb and milk. In Rigveda, there are chants in praise of Apām Napāt (the name of the god of water in the religion of Zoroastrian). He is the offspring of waters. In Rigveda’s chants, there are stories of his legend and it is said that: “Apām Napāt were born within the heart of heavens and from the clouds and he was raised there, the pure waters and clouds nourished him like a mother and as he was grown, his thunder comes out of the clouds, like a blade of fire and lightning from the skies.” (Afifi, 1995: 403)

ANAHITA, THE GODDESS OF WATERS, FERTILITY AND VEGETATION
It can be boldly said that not so many lands, water is given such an enormous value and respect as it is in Iran. The evidences of the presence of this emotion and thought can be found in the beautiful and deep concepts visualized as legends and myths during the pre-Islamic era in Iran. For Aryans, rain was the ultimate element having a direct link to their lives. This implication is indicated when we see that water and enlightenment is the theme of the delicate and tender stories and the sweet fables. One of these fables, is the myth of Anahita, the goddess (Samadi, 1988: 13-16).

Anahita, Anahid or Nahid is one of the outstanding goddesses of ancient Iran. She is also known as the goddess of love and war. This goddess, who was a fair virgin, ruling over water was also a muse for earth’s fertility and the element of creation of the universe and also the Mother goddess.

The complete name of this goddess is Aredvi Sura Anahita, meaning a strong and pure River (Water), which along with this goddess, concepts such as rain, abundance, herbs, fertility, blessing, matrimony, love, maternity, generation and victory are implicated.

In ancient Iran, Anahita were the goddess of fertility and the head mistress of Iranians. In Iranian models, she was the symbol of water, generation and river. According to Anahita’s description in Avesta, she had an octagonal crown with many hundred stars on her head, a golden dress on her body and a golden necklace on her neck. She is described to be the fountain of all the waters on earth and the source of all
fertilities; she purifies the seed of all males, sanctifies the matrix of all mothers and cleanses the milk in every mother’s breasts (Yahaqi, 1388: 814).

She sits on a carriage and rides it with its leash on her hands, the carriage is led by four strong white horses; she rides and rules over all men, demons, witches, fairies, mountains and the oppressive crepes (Doustkhah, 1991: 319).

In Ahan Yeshī of Avesta, Anahita is described as a fair, young and tall lady whom were praised even before Zoroaster. Life springs out of her fountain and also one of her sculptures which is named the Mother goddess were found in the excavation of Sarab hill with a life of 9000 years (Amuzegar, 1995: 21-22).

Anahita is described in Avesta as: “Aredvi Sura Anahita, truly as it is her style, took the Barsom, puts on golden square earrings and golden necklace from her elegant neck and appears. She wears a corset to highlight her breasts and be more appealing.” (Doustkhah, 1991: 320)

The belief of water being a goddess is not without any foundation; as breast is the symbol of nourishment (nursing) and as water gives life to entities and is the inception of blessing and fertility, these characteristics suits more with a woman’s emotions.

It is mentioned in Avesta: “That much strong darling, Aredvi Sura Anahita walks and thinks to herself – who’s there to worship me? Who’s there to challenge me, mingle with Haoma and be in need of this lioness, this creator of fine religion? I would favor this committed fine hearted person and I wish him to be happy and blooming!” (Doustkhah, 1991: 299-298)

PRAISING ANAHITA

Anahita were so significant in the ancient times that along with Ahura-Mazda and Mehr (Mithra) and her formed the holy trinity during Achaemenian, Parthian, and Sassanid reigns. This concept is evident in the manuscripts and reliefs remaining from those reigns.

The evidences of praising Nahid or in fact, the sanctity of water as an eternal cultural element still reflects on the contemporary Iranian traditions. As in our culture, water is the source of enlightenment and blessing. For example, in some regions of Iran, still one of the major elements present in the “Sofre 7-seen” of the New Year is water. In many of the current rural regions, the water which is to be put in the Sofre 7-seen is brought from fountains by virgin girls. Anahita is the goddess of water and this is why virgins are those who bring water from fountains also known as “Anahid” and this goddess is the parent of this life giving element, they steal the water and bring it back with themselves. This is an irony meaning that may there will be water for them throughout the year, also water in the Nowruz table decoration is as its other elements, a sign for fertility and blessing (Hashem Razi, 2005: 240-241)

Generally speaking, in the religion of Zoroastrianism, there are four holy elements which are fire, water, wind and earth which each of them have their own spectacular power. Apparently, water is the dearest element of creation after fire (Hashem Razi, same: 268).

THE ETYMOLOGY OF RAIN CREATING

Since ancient times, Iran was challenged with drought. We can see its first evidences in Takht-e Jamshid; where Darius asks Ahura-Mazda in his manuscript to protect Persia from drought, lies and enemies. Then this is not far from thought that as much common is praising the goddess of water in Iran; the rain creation rituals were also common. Though, what is this ritual exactly?
This ritual is a complex and vast concept and was increasingly appearing in different cultures with different shapes and forms. One of the fixed features of this ritual is its link and connection with a divine religion. There are countless goals to perform the ritual, such as fulfilling the spiritual needs, strengthening the social bonds, showing respect and obedience and affirmation of an event and …

The important point in this ritual is that its symbolic concept and task is not chosen by those performing it or is not driven by logic or evil, but it is imposed by an external force to them which they have incontinently inherited from their social traditions (Grimms, 1994).

It has been said that the main part of the rituals which were performed by the primary or even modern human is asking for blessing (Bahar, 1998: 297). Human is always vulnerable in the battle with natural forces. Because these forces can simultaneously be life giving and destructive. This permanent vulnerability of man always brings him to his knees; thus, the rituals were always performed accurately and carefully to ensure favorable results.

In a comprehensive point of view, the rain creating ritual is performed as following:

1- Manufacturing a doll by children, women or youngsters or sometimes the neighbors.
2- Alternatively, picking someone from the villagers and assigning him/her with a symbolic character
3- Marching on a holy place or the alleys of the village or carrying the doll or accompanying the chosen one.
4- Pouring water on the doll or the marchers or the chosen symbolic characters.
5- Saying prayers or chanting in demand for rain
6- Receiving gifts from neighbors
7- Cooking Aash or bread and labeling and distributing the ritual meals.
8- Beating someone whose sign is in the meal until someone can meddle for him.

In this passage, the doll’s manufacturing and its relation with Anahita is investigated.

DOLLS’ MANUFACTURE
In different regions of Iran, manufacturing dolls are more or less the same. In Kurdistan, where the rain creating ritual is known by the name “Bouke Baran” meaning the bride of rain, they stick two pieces of wood in a cross shaped form and put on their traditional clothes on it (Hashemi, 2006). In Azerbaijan, using a dipper and making a cross and wearing dresses on the cross, they manufacture the dolls (Ashourpour, 2008). Manufacturing dolls in Gilan were also performed using a spoon (Mirshekarai, 2005: 462) and sometimes the women of Bardsir, suffice to making a little face (Borumand Saidi, 1998: 251-252).

In Quchan, the young wear sheets or sometimes clothes on two or three meter sticks which they call “Chuli Qazak” (Mirnia, 2002: 184-185). In Kermanshah, people wear clothes on a long clothes and take it to a virgin girl and they also call this dress “Kuli Qazak” (Shams, 1998: 56). In the villages of Zarand in Kerman, they call this scarecrow the “Talou” (Khal’atbari, 2008: 86). The gender of these dolls are usually female and they are called the bride of rain and it acts as a meddler for descend of rain.

Dolls are metaphysical symbols and is sometimes known as the mother of crops or the mother of virgins (Kupar, 2000: 258). In rain rituals, there is no doubt that there is a relationship between dolls and a
godess which can influence the creation of rain. Thus, many believe dolls to be the symbol of Anahita who is the goddess of water and fertility in the rain creating rituals (Ashourpour, 2008).

Since Tishtrya is the god of rain and Anahita is the doll in this ritual, Anahita must please Tishtrya to make it rain and since the dolls are called the brides of rain in poems, it is probable that there be a relationship between Anahita and Tishtrya in the unwritten beliefs of people.

**TISHTRYA, THE HELPER OF THE GODDESS OF WATER**

This belief that women always are in need of men’s support and their evolution is completed with the presence and the existence of men have always been common since the dawn of time until today. As Evelin Reed has said: “The idea that men are superior to women in societies depends on two biological features: men are often larger and more muscular and sturdier than women, and women are responsible for child bearing. Thus, this idea indicates that women are in need of the strong and witty men in order to dwell their vulnerable lives” (Reed, 2009: 44).

When her majesty, Anahita wills to show her power and godlikeness, she has to have companies. Her companies are the cloud, wind, rain and the hailstone.

Tishtrya in Iran is known as the supporter and the guardian of Anahita. Only with the presence of this god, the goddess of water can be fertile and cause the creation of rain. As Tishtrya, beats the demon of drought in a hard battle and after the demon is defeated, waters are released and the rain descends.

**RITUAL MARCHING**

In most rain creating rituals, marching can be found. The destination is up on the hills or meadows and farms; As the Bouke Baran ritual (Hashemi, 2006) people sometimes march to the Imamzadeh or to villages such as Chamcheh Khatoun (Ashourpour, 2008).

Marching is more common among girls and children and as children are naturally innocent, the play a more significant role in this ritual.

**POURING WATER ON DOLLS OR THE MARCHERS**

In most rain creating rituals, people pour water on dolls or the marchers. This is a symbolic and magical task. In many wizardries it is said that if you want the nature to do something, you have to do it yourself first (Bahar, 1998: 277). This task is of an ancient origin; huntsmen used to throw spears at the animal shapes on the cave walls they dwelled into, thus, pouring water on dolls and marchers is a symbol of the marchers’ prayers for rain being granted. In fact, pouring water from a heights stimulates this magic so that it would act more effectively.

**CONCLUSION**

The land of Iran has always been dry, facing waterlessness or lack of water, and because of this geographical feature, water has always been of great sanctity in the minds of Persians. Water provision in our country, especially in the past eras were always a vital element of urban and rural residents. Rain has always been counted as one of the significant sources of water provision and Persians have always been asking the heavens for this need. The presence of a water goddess such as Anahita, Aredvi Sura and Tishtrya in Persian cultures is evident for this significance.

Aside from the concept of rain and its utilization for agricultural purposes, the significance of water in man’s life, particularly in the dry land of Iran has always been of great sanctity. As reported by Herodotus – as it is mentioned above – water were of an enormous holiness in ancient Persians minds. The advent of rain creating rituals which are still being performed across Iran is an evidence for the importance of water and asking for rain and blessing in this country.
The most important task which is performed in the rain creating ritual is manufacturing a doll which is the symbol of Anahita and pouring water on this doll wishing that the Mother Nature would do the same. This task is a kind of wizardry. While this might not reflect the aware minds of the holders of this ritual, but in the mind of the unaware, it reflects as such it is still heartwarming for the holders.

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EXPERIMENTAL SURVEY OF THE EFFECT OF USING DIAMOTITE LIGHTWEIGHT AGGREGATE AND PVC-COATED GLASS FIBER ON STRUCTURAL LIGHTWEIGHT CONCRETE

Alireza Shabanian Tafti
Department of Civil Engineering, Lenjan branch, Islamic Azad University, Isfahan, Iran

ABSTRACT
Based on the increasing growth of concrete construction in the current development world, much progress in different scientific fields of concrete industry is occurred and production of structural lightweight concrete is the result of such progress. These concretes are constructed using lightweight and strong aggregates. Using different lightweight aggregates to reduce the weight of structural elements and finally structural light weight against earthquake has been development recently. This study applied ultra-lightweight diamotite. This lightweight aggregate has volume weight of 260 kg/m$^3$ and from weight aspects, it is the lightest lightweight aggregate in the market. In recent years, using different fibers as construction material reinforcement in concrete industry has received much attention. In this study, spiral glass fiber with PVC coating and mesh texture are used. The Researches showed that glass fiber was harmless due to having a PVC coating. This study has experimental evaluation of the effect of using diamotite lightweight aggregate and glass fibers with PVC coating on structural lightweight concrete. To do this, some experiments are performed on all mixtures of lightweight concrete including water absorption test, compressive strength and unit weight on selected mixture design. Based on the results of mentioned constructed samples, the mentioned lightweight concrete had acceptable results despite the low unit weight compared to the similar samples in the presence of diamotite lightweight aggregate and fibers.

Keywords: Lightweight concrete, Leca, Diamotite, PVC-coated Glass fiber

INTRODUCTION
In current world and based on the progresses in different scientific fields, concrete industry has been changed and production of lightweight concretes is the result of such progress. This concrete besides the reduction of dead load of building reduces the force imposed on structure in case of earthquake and in case of destruction, the weight of debris is also reduced and it is called the concrete of the century. One of the construction methods with its great development is concrete buildings. After Islamic Revolution of Iran, due to the shortage of beam due to sanctions and development of civil constructions in the country, the concrete application was increased considerably. In addition, concrete buildings have many advantages including high resistance to fire, noise and corrosion, easy construction of concrete due to the abundance of concrete materials compared to steel buildings. The structural lightweight concretes have density less than 2000 kg/m$^3$ and compressive strength more than 17MP. These concretes are made only using lightweight and strong aggregates. All structural lightweight concretes belong to lightweight aggregate concretes in which lightweight aggregates are used to reduce unit weight.

Thus, the terms lightweight concrete and structural lightweight concrete are used to define a concept. In structural lightweight concretes, the aggregates are used in which the concrete has strength more than 17MP and unit weight less than 2000 kg/m$^3$. The aggregates meeting these conditions in accordance to standard ASTM-C330 to construct structural lightweight concrete include as (Madandust, 2013).
a. expanded Shale, Clary and slate in rotational furnace
b. The aggregates being made by agglomeration processes.
c. Expanded slag
d. Natural lightweight aggregate
e. Synthetic lightweight aggregate
f. Deposited fly ash

Providing compressive strength equal to 20N/m2 or more with some of these aggregates is possible. The condition of other aggregates is as minimum compressive strength for structural lightweight concrete is achieved. The strength of lightweight concrete is dependent upon its unit weight. It should be considered that unit weight is mostly affected by unit weight of aggregates as lightweight materials can reduce unit weight of concrete but using heavier materials than lightweights cannot increase the constructed concrete strength (Maghsudi, 2007). (Wang, 1989). There are different types of fibers improving the concrete properties. Indeed, concrete has not complete mechanical properties alone. Recently, various studies have been conducted to achieve poly propylene fiber properties. Also, some studies have been conducted between the properties of carbon fiber and poly propylene fiber (Kakemi, 1996) glass fiber and poly propylene fiber (Wang, 2006) or carbon fiber and glass fiber (Peres, 1994)( Mobasher, 1996). Although these studies include the comparison of the poly propylene fiber with other fibers, most students focus on steel poly propylene fiber (Hua, 2005), (Abbas, 2002). Steel fibers have high elasticity and stiffness and increase compressive strength and concrete toughness. On the other hand, poly propylene fibers have good ductility and dispersion so they can restrain plastic cracks. Also, good combination of both types of fibers can improve mechanical properties of concrete. Adding steel fibers to concrete can improve concrete properties but the fiber content must be high. It increases structure weight of concrete and has balling effect during mixing so that workability will be decreased. In addition, steel fibers easily basset and rust and it also has the problem of magnetic field. If steel fiber-reinforced concrete is used in the runway of airport and nuclear power plant, it many have the safety problem (Song, 2005). The main reason of innovation of fiber is elimination of rebar of structures for severe corrosion of rebar in humid areas namely underground structures and relative rigidity of reinforced concrete against earthquake and various vibrations and it is considered mostly in underground arteries. The investigation of this phenomenon has received much attention from Japan (high seismic) and US and now the production technology of this fiber is dedicated exclusively to these two countries. Based on the investigations on this type of concrete, improvement of the following properties compared to ordinary concrete is expected:

- High energy absorption and good ductility
- Increase of rupture strength after the first crack
- Reduction of crack in concrete with high ductility
- Increase of tensile strength
- Reduction of concrete loss
- Increase of resistance against corrosion
EXPERIMENT
To achieve concrete with required performance, the first step is selection and recognition of materials components. The next step is a trend called determination of mixture ratio by which correct combination of concrete elements is achieved. Determine mixture ratios is a complex process and this is based on the fact that required properties of concrete can be affected by the change of a definite variable. For example, adding water to an unworkable concrete mixture with definite cement improves the fresh concrete fluidity but its strength is reduced. Indeed, workability is composed of two main components: Fluidity (flowing easily) and adhesion (resistance against separation). These two components interact when water is added to concrete admixture. Thus, mixture design balances the opposite porous effects as it was said. There are various methods to compute the concrete mixture ratios around the world but two methods of weight method and absolute volume are much common. Weight method is less precise but it doesn’t need some information about the density of concrete construction materials. The absolute volume method has high precision. By second method (absolute volume), mixture design is computed. Thus, unit weight of all materials is achieved. The mixture design includes the following items:

1- Adhesive includes pozzolan and cement. In this study microsilica pozzolan, metakaolin and zeolite.

2- Aggregate materials include Leca (with particle size and without particle size), gravel, sand and mineral aggregate (Pumice) and diamotite lightweight aggregate.

To construct this lightweight aggregate(Diamotite), clary as raw material is reduced and a new material called diamotite made of glass recycling materials is added in combination with clary. In this process, some pores are created inside the lightweight aggregates and this makes acoustic feature of the lightweight aggregate and thermal conductivity is reduced. These aggregates are economical. They are made similar to synthetic lightweight aggregates including Leca and its construction cost is equal to the cost of Leca construction. There is only one difference is noise and heat proof and its unit weight compared to Leca lightweight aggregate is exactly half, 240 kg/m$^3$. Unit weight of diamotite aggregates is 210 to 310 kg/m$^3$. The unit weight of constructed concrete with these aggregates at compact state is 750 kg/m$^3$ and at non-compact case is 450 kg/m$^3$. The low weight of aggregate is due to empty space inside the aggregates and based on sizing occupies 73-88% of total space.
**Figure 1-** Diamotite lightweight aggregate

**Table 1-** Particle sizing of applied diamotite

<table>
<thead>
<tr>
<th></th>
<th>Diamotite</th>
<th>Leca</th>
<th>Sand 0-3</th>
<th>Filler sand</th>
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<tr>
<td>¾</td>
<td>20%</td>
<td>60%</td>
<td>12%</td>
<td>8%</td>
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<tr>
<td>½</td>
<td>67.811</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
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<tr>
<td>4</td>
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<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
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<tr>
<td>8</td>
<td>0.000</td>
<td>214.952</td>
<td>31.282</td>
<td>0.085</td>
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<td>16</td>
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<td>161.214</td>
<td>47.441</td>
<td>3.306</td>
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<td>30</td>
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<td>0.000</td>
<td>44.855</td>
<td>2.967</td>
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<tr>
<td>50</td>
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<td>27.792</td>
<td>4.238</td>
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<td>100</td>
<td>0.000</td>
<td>0.000</td>
<td>65.021</td>
<td>11.274</td>
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<tr>
<td>200</td>
<td>0.000</td>
<td>0.000</td>
<td>0.517</td>
<td>6.527</td>
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<td>pan</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
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</table>

Required value: 67.811 376.166 223.372 111.383

**Figure 2-** Particle sizing chart of applied aggregate in mixture design

**GLASS FIBER**
Glass fiber was applied with cement and was called Glass reinforced concrete (GRC). Adding glass fiber to concrete affects the reduction of fresh concrete workability (Banthia, 2003), (Chen, 2005). Thus, good plasticizers should be used and good mixture method should be also experienced. Also, glass fiber adheres in fresh concrete and this leads to balling of fibers. In this case, fibers distribution is not uniform anymore and a solution should be found to eliminate it.
The advantages of using this type of fiber include:

- Flexural stiffness equal to steel
- Long life of structure- no corrosion of concrete
- Light weight compared to steel fibers
- Reduction of damages of fire
- Reduction of wear-out and abrasion in concrete pump and concrete pipes compared to steel fibers

The applied cement in the experiment is portland cement type II of Isfahan cement factory as 450 kg/m³ in the mixture. The potable water without any chemical contamination was used. The water added to the mixture was 160 kg/m³ and water-cement ratio was 0.356. To reduce water in concrete due to using fiber, a new material Adva flow 501 with Grace brand was used to reduce water in concrete construction. This material is liquid based on poly carboxy material as 1.6 to 2.1 weight percent of cement.

To construct concrete, baching of University Lab with capacity 50 Lit is used. The mixture is as at first aggregates (lightweight aggregate and sand) and cement are poured dry into the system and after mixture for 1 min, 0.75 of water is added gradually. Then, the fibers are added gradually and later Grace plasticizers and Air Entraining agents are added. After this phase, the rest of water is added to the admixture and is mixed for 3 min in batching and is prepared to be placed in the forms.

The general mixture design and admixture design based on Batching capacity are shown in the following Tables.

| Table 2- The general mixture design of fibers lightweight concrete construction |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Cement | water | Sand (0-5mm) | Lightweight aggregate (5-12mm) | Fibers | Super plasticizer |
| 450 kg/m³ | 160 kg/m³ | 837 kg/m³ | 835 kg/m³ | 1-3 % | 1.6-2.1 % |
EXPERIMENTS AND RESULTS
THE EVALUATION OF THE EFFECT OF USING FIBERS
To determine the optimal percent of fibers, compressive strength test on cubic samples 100 x100 x100 mm is used and the results are shown in Table 3. Based on the results of compressive strength charts and experiments at the day 3, 7, 14, 28 days, we can say the best percent of using studied fibers to start strength tests based on 5% proposed value is 2% as weight alternative of cement.

After achieving optimal percent of fibers in mixture design, we investigate the mechanical properties of lightweight concrete with and without fiber.
### Table 3-Compressive strength with optimal fiber percent

<table>
<thead>
<tr>
<th>Fiber Concrete</th>
<th>Superplasticizer</th>
<th>Slump (mm)</th>
<th>Fresh Concrete Weight (Kg)</th>
<th>Concrete Weight After Removing Formwork (Kg)</th>
<th>7 days strength (MPa)</th>
<th>14 days strength (MPa)</th>
<th>28 days strength (MPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Concrete</td>
<td>1.00%</td>
<td>30</td>
<td>2450</td>
<td>2396</td>
<td>28.7</td>
<td>39.9</td>
<td>49.7</td>
</tr>
<tr>
<td>Fiber Concrete 1%</td>
<td>1.40%</td>
<td>30</td>
<td>2398</td>
<td>2323</td>
<td>31.2</td>
<td>42.0</td>
<td>49.0</td>
</tr>
<tr>
<td>Fiber Concrete 1.5%</td>
<td>1.40%</td>
<td>30</td>
<td>2393</td>
<td>2320</td>
<td>32.4</td>
<td>44.3</td>
<td>51.8</td>
</tr>
<tr>
<td>Fiber Concrete 2%</td>
<td>1.50%</td>
<td>27</td>
<td>2358</td>
<td>2315</td>
<td>30.6</td>
<td>42.6</td>
<td>55.5</td>
</tr>
<tr>
<td>Fiber Concrete 2.5%</td>
<td>1.50%</td>
<td>25</td>
<td>2333</td>
<td>2313</td>
<td>24.8</td>
<td>38.6</td>
<td>47.7</td>
</tr>
<tr>
<td>Fiber Concrete 3%</td>
<td>1.50%</td>
<td>20</td>
<td>2340</td>
<td>2279</td>
<td>23.5</td>
<td>32.9</td>
<td>41.8</td>
</tr>
</tbody>
</table>

**ABSORPTION OF WATER OF SAMPLES**

Based on the effect of concrete water absorption on mechanical properties of lightweight concretes namely in facing invasive fluid environments including acid and alkaline environments, it is decide to investigate this parameter before the start of main tests. To do this, cubic samples 100 x100 x 100 mm are made for control concrete, diamotite and other lightweight aggregates in experiments to evaluate the long-term water absorption. All the samples were kept for 48 hours in ovens at temperature 105°C at 28 days after curing period. Then, they were weighted and kept in water pond. Water of all specimen was absorbed at days 1, 2, 7, 14, 28 after being removed of the pond and drying. The results of measuring water absorption are shown in Table 4.

Based on the results in this Table and Chart 6, we can say the specimen with pumice lightweight aggregate have the lowest water absorption compared to other samples. This is due to water absorption of lightweight aggregates including pumice and Leca. The reason of reduction of water absorption of concrete with pumice compared to other lightweight aggregates is due to high density of this lightweight aggregate and its high density compared to other lightweight aggregates including diamotite.

This is also true about the specimen with Leca and diamotite, with the difference that high tendency of lightweight aggregate to water absorption causes that its porosity to increase long-term water absorption is adequate and it has high absorption compared to other lightweight concretes and by increasing fibers, water absorption is also increased.
Table 4- The results of samples of water absorption tests of type of applied lightweight aggregate

<table>
<thead>
<tr>
<th>Water absorption to the complete dry specimen</th>
<th>Ordinary concrete</th>
<th>Concrete with pumice lightweight aggregate (mineral lightweight aggregate)</th>
<th>Leca lightweight concrete</th>
<th>Concrete with diamotite lightweight aggregate</th>
<th>Concrete with diamotite lightweight aggregate and 2% fiber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight of fresh concrete (Kg)</td>
<td>2450</td>
<td>1980</td>
<td>1737</td>
<td>1390</td>
<td>1365</td>
</tr>
<tr>
<td>Water absorption measurement age (Day)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water absorption 1 day</td>
<td>4.90%</td>
<td>4.90%</td>
<td>5.10%</td>
<td>7.50%</td>
<td>7.70%</td>
</tr>
<tr>
<td>Water absorption 2 days</td>
<td>4.90%</td>
<td>5.10%</td>
<td>5.40%</td>
<td>7.60%</td>
<td>7.80%</td>
</tr>
<tr>
<td>Water absorption 7 days</td>
<td>5.20%</td>
<td>5.50%</td>
<td>5.90%</td>
<td>7.90%</td>
<td>8.20%</td>
</tr>
<tr>
<td>Water absorption 14 days</td>
<td>5.20%</td>
<td>5.60%</td>
<td>6.00%</td>
<td>8.00%</td>
<td>8.20%</td>
</tr>
<tr>
<td>Water absorption 28 days</td>
<td>5.30%</td>
<td>5.70%</td>
<td>6.10%</td>
<td>8.10%</td>
<td>8.20%</td>
</tr>
<tr>
<td>Percent of water absorption of specimen compared to control sample</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Figure 6- The long-term water absorption of studied concrete specimen

Table 5- The results of short-term water absorption

<table>
<thead>
<tr>
<th>Particle size (mm)</th>
<th>Half hour</th>
<th>One hour</th>
<th>24 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diamotite lightweight aggregate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>10.4</td>
<td>11.5</td>
<td>15.4</td>
</tr>
<tr>
<td>5.6</td>
<td>10.8</td>
<td>11.6</td>
<td>15.5</td>
</tr>
<tr>
<td>6.3</td>
<td>11.1</td>
<td>11.6</td>
<td>15.6</td>
</tr>
<tr>
<td>8</td>
<td>11.1</td>
<td>11.9</td>
<td>15.7</td>
</tr>
<tr>
<td>Leca</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>6.7</td>
<td>7.0</td>
<td>11.3</td>
</tr>
<tr>
<td>5.6</td>
<td>6.6</td>
<td>6.8</td>
<td>11.1</td>
</tr>
<tr>
<td>6.3</td>
<td>6.6</td>
<td>6.0</td>
<td>10.9</td>
</tr>
<tr>
<td>8</td>
<td>6.3</td>
<td>6.7</td>
<td>10.8</td>
</tr>
<tr>
<td>Pumice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>5.2</td>
<td>5.3</td>
<td>6.7</td>
</tr>
<tr>
<td>5.6</td>
<td>5.4</td>
<td>5.4</td>
<td>6.8</td>
</tr>
<tr>
<td>6.3</td>
<td>5.4</td>
<td>5.5</td>
<td>6.8</td>
</tr>
<tr>
<td>8</td>
<td>5.6</td>
<td>5.7</td>
<td>6.9</td>
</tr>
</tbody>
</table>

COMPRESSIVE STRENGTH TEST
Here, we evaluate the compressive strength of constructed specimen with fibers with code I and without fiber with code II with different lightweight aggregate combination. The specimen are coded as D for diamotite concrete, L for Leca and P for Pumice. To determine compressive strength of cubic specimen, the test is performed on some specimen 100 x 100 x 100 mm and the results of test are shown in Table 6.

Figure 7- The system of testing compressive strength and cubic concrete specimen

Table 6- Compressive strength of lightweight concrete specimen with or without fibers

<table>
<thead>
<tr>
<th>Code</th>
<th>Specimen age (day)</th>
<th>Compressive strength MPa</th>
<th>Compressive strength turned to 75 x 150 MPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>F/D/I/7</td>
<td>7</td>
<td>13.91</td>
<td>10.71</td>
</tr>
<tr>
<td>F/D/I/28</td>
<td>28</td>
<td>25.75</td>
<td>19.83</td>
</tr>
<tr>
<td>F/D/I/91</td>
<td>91</td>
<td>30.40</td>
<td>23.41</td>
</tr>
</tbody>
</table>
Brazilian tensile test is performed on cylinder specimen with size 150 x 300 mm in accordance to standard ASTM C 496 (standard test of computation of Brazilian tensile strength of concrete cylinder specimen) and the results are shown in Table 7.

**Figure 8** - The results of compressive strength and cubic concrete specimen
CONCLUSION

This study had an experiment survey of the impact of using Diamotite lightweight aggregate and PVC coated glass fiber on structural lightweight concrete. To do this, some tests have been conducted on all admixture designs of lightweight concrete including water absorption, compressive strength, tensile test and unit weight on selected admixture designs and finally the following results were achieved:

1- The comparison of the results of compressive strength shows that compressive strengths of constructed samples from different lightweight aggregates without glass fiber with PVC showed high resistance compared to the specimen with fibers. This rule is true at all ages. This is due to the entrapped air and concrete compaction problems.

2- The best percent of using the studied fibers as 2% as weight alternative of cement.

3- The results show that using unit weight fibers reduce the volume of fresh concrete and this is due to the low unit weight of fibers compared to cement.

4- The specimen with Pumice lightweight have the lowest water absorption compared to other specimen. This is due to the absorption of water of lightweight aggregates including pumice and Leca. The reason of reduction of water absorption of concrete with pumice compared to other lightweight aggregates is due to high density of this lightweight aggregate and its high density compared to other lightweight aggregates including diamotite.

5- Using PVC–coated fiber glass increases tensile strength of lightweight concrete specimen about 15%. Thus, using PVC-coated glass fiber improves tensile strength of lightweight concrete but it has no positive effect on the results of water absorption and compressive strength tests.

6- Diamotite lightweight specimen with lower unit weight compared to the specimen with other lightweight aggregates show acceptable results in all tests including water absorption, compressive and tensile strength. Thus, using diamotite lightweight is recommended in construction of structural lightweight concretes based on the results.

Table 7- Tensile strength of specimen regarding the tests of type of applied cement

<table>
<thead>
<tr>
<th>Code</th>
<th>Specimen age (Day)</th>
<th>Tensile strength MPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>F/D/ II/7</td>
<td>7</td>
<td>3.39</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>F/D/ II/28</td>
<td>28</td>
<td>6.39</td>
</tr>
<tr>
<td>F/D/ II/91</td>
<td>91</td>
<td>9.22</td>
</tr>
<tr>
<td>F/D/I/7</td>
<td>7</td>
<td>5.83</td>
</tr>
<tr>
<td>F/D/I/28</td>
<td>28</td>
<td>7.75</td>
</tr>
<tr>
<td>F/D/I/91</td>
<td>91</td>
<td>10.15</td>
</tr>
<tr>
<td>F/L/ II/7</td>
<td>7</td>
<td>3.57</td>
</tr>
<tr>
<td>F/L/ II/28</td>
<td>28</td>
<td>6.66</td>
</tr>
<tr>
<td>F/L/ II/91</td>
<td>91</td>
<td>9.33</td>
</tr>
<tr>
<td>F/L/I/7</td>
<td>7</td>
<td>6.39</td>
</tr>
<tr>
<td>F/L/I/28</td>
<td>28</td>
<td>8.43</td>
</tr>
<tr>
<td>F/L/I/91</td>
<td>91</td>
<td>10.98</td>
</tr>
<tr>
<td>F/P/ II/7</td>
<td>7</td>
<td>3.02</td>
</tr>
<tr>
<td>F/P/ II/28</td>
<td>28</td>
<td>5.45</td>
</tr>
<tr>
<td>F/P/ II/91</td>
<td>91</td>
<td>6.98</td>
</tr>
<tr>
<td>F/P/I/7</td>
<td>7</td>
<td>4.68</td>
</tr>
<tr>
<td>F/P/I/28</td>
<td>28</td>
<td>6.70</td>
</tr>
<tr>
<td>F/P/I/91</td>
<td>91</td>
<td>7.52</td>
</tr>
</tbody>
</table>

REFERENCES


THE ROLE OF BUILDINGS FACADES OF ON URBAN LANDSCAPE  
(CASE STUDY: OLD CONTEXT OF SARI)

Majid Alishah  
Department of Architecture, Architecture Faculty, Islamic Azad University of Sari, Mazandaran Province,  
Sari, Iran

Abdollah Ebrahimi  
Department of Architecture, Architecture Faculty, Islamic Azad University of Sari, Mazandaran Province,  
Sari, Iran

Faezeh Ghaffari  
Department of Architecture, Architecture Faculty, Islamic Azad University of Sari, Mazandaran Province,  
Sari, Iran

ABSTRACT
Facade and urban landscape, the dominant figure in the body of the city and containing the first messages  
in urbanism in the citizens’ outlook, has been a place of dialogue especially from the half of last century.  
The recognition of this theme its complex due to its’ close relationship with issue of identity and character  
of the city, and its’ scope was expanded with the beginning of the modern age and non-conventional  
management practices based on the law on urban development. In our society, urban landscape and face  
as a part of the country’s contemporary architecture conflict became as one of central focus of dialogue  
despite the specific cultural orientation of the system especially after the revolution and growth of  
population and urbanization share, war reconstructions, a massive expansion of cities in response to  
immigrant settlers and the expansion of higher education.

* According to the purposes intended in this article, the method used in data collection method has been  
Library method and studying written documents. The content was analyzed using inductive reasoning  
method after data systematic and accurate foundation theoretical collection a and design of building  
facades in the old contexts of the city described.
* The vulnerability of city spaces in front of inappropriate facades, in the design of buildings it should  
generaly be noted that facades of buildings should be able to express the volume inside the building in  
adition to solidarity with public spaces.
* So methodical design of facade and paying attention to 'riginaity and beauty give the city identity and  
reduces the chaos of the city and thus turbulence of the people of city. This process leads to reconciliation  
of people with urban spaces and on the other hand prevents their remoteness from such places.

Keywords: Urban facades, old context, Sari

INTRODUCTION
The city been influenced always by physical, economic, social, cultural parameters and in the passage of  
time and shaped and integrated its’ totality in relation to them. According to many experts, symbol and  
manifestation of different existential dimensions of the city are appearance and physical body and its  
'resulting qualities including the urban space. One of the most important urban physical components and  
elements in the which is effective especially in relation with citizens and strengthen the sense of place in  
the urban space, is the composition of buildings facades and in other words "city view". In other words,  
"the city of is a common visual field that all citizens are exposed to it every day inevitably and should use  
it. If this common field has an ugly and disharmonmic view, it will have destructive mental and emotional
effects on users. "[1] Therefore, in the view of the city is part of the collection in its entirety street, square or urban space is defined. Therefore, achieving an appropriate awareness is necessary and proportionate to the subject of criticism in the process.

The importance of this study is on this basis that can be realized in a series of gaps and problems in this area and be forced to meet And we're familiar with a variety of shots in a sample can be estimated that several areas are consistent with what a view And what colors, materials and shapes that fit with their culture and their identity is anonymous. Because the monuments and buildings that make up the fabric of the neighborhood and the city And so are the residents of the neighborhood and the city identity and belonging Sports that can have researched in order to face the lack of building facades in the city and neighborhoods And a And the behavior and attitudes affect citizens' lives The results of the rehabilitation and renovation of building facades solutions for identity and belonging to Advance citizens makes it clear And makes us healthy city and healthy indicators Bahvyt and beautiful in our path. This is important.

**Research Literature**

As defined by Gordon Cullen (1961) urban landscape is visual and structural integrity to the set of buildings, streets and places that make up the urban environment [2]. Thus, from his perspective, the facade of each city is a response to human behavior, weather conditions, safety factors, and in other words, skillful interventions in the framework of the increasing abilities of the environment. Every person’s perception of the urban perspective is affected by sense of sight, sense of place and environment content that's placed on it [3] (Mahmudi, 2006). According to John Ruskin, the urban landscape is more than a matter of urban planning and design and foremost is the recognition of values, human goals and social responsibilities by sections of society [4]. The urban landscape is the result of human and city contact and in this regard, human not only impact on the urban landscape through his activities in the structure of the visual landscape of the city, but also the behavior and the subjective perception of citizens affected by contact with the urban landscape. It also indicated that the urban landscape is citizens understanding of the city that takes place due to perception of its symbols (the physical dimensions of the city) and evoking ideas associated with them (the mental and memory aspects). Three goals of the urban landscape include: aesthetic, cultural identity and functional [5]. From the perspective of Golkar (2003) urban landscape, is a triple integration of objective, subjective and the emotional landscape of the city that is the basis of behavior [6].

**Research Methodology**

Library and field methods are used to data collection and descriptive analytical method is selected as the research methodology. According to the purposes intended in this article, the method used in data collection method has been Library method and studying written documents. The content was analyzed using inductive reasoning method after data systematic and accurate foundation theoretical collection a and design of building facades in the old contexts of the city described.

**THE PERSPECTIVES AND THEORETICAL FOUNDATIONS**

facade building

The outer part of the building is called facade. Since the building facade is exposed to the extreme climatic factors care must be taken in choosing the materials for facade building to made facade be resistant against atmospheric factors firstly and secondly have necessary beauty and too be in coordination with adjacent buildings facades. We Can use various materials such as brick, different types of cement, stones, colored stone beads with special adhesives and a variety of aluminum sheet metal.

facade as a part of a whole

We are not facing a building and its façade in urban space, but we face buildings and their facades it means buildings is part of a whole named urban space. If the building is beautiful affect the entire city and if the building is ugly impact on the entire city. Today building is not isolated to attract all attention of
designer and owner but it should be an element of a unified society maintaining its character and credit. Turbulence in the face of the city is a new phenomenon. Integration and uniformity of residential buildings and materials used in the walls of homes and public spaces are the reasons for buildings introversion in ancient Greece and Rome [7].

**urban facade in European architecture**

Facade quality and characteristic in European architectural are tied with its’ cultural, social and environmental dimensions like the city and urban spaces. The kind of attitude to the issue of confidentiality and aristocracy on the one hand and having the climatic characteristics of temperate and humid which creating air curran in the building and benefit from maximum sunlight and sunshine during the day are of its requirements, have led to the emergence of extroverted architecture over time. It can be acknowledged that the greatest impacts arising from realizing the requirements of these kind of architectural in different buildings have been in the facades, So that the opening multiple levels in the outer shell of the building is considered in this regard.

On the other hand, historically the European citizen has found always representation of his individual interests and inclinations in civil societies and spaces belonging to them. This issue has caused strengthening and improving the quality of public areas in European cities in different ways. On the one hand, the building faces the urban space and establishes a reciprocal relationship with the city with maximum architectural elegance in the design of the facade such as the quality and quantity of openings, protrusions and recesses and .... and on the other hand, although every building tries to provide the best quality in its’ main facade, but despite the shape diversity, the building were in a relative harmony with each other. That is, while the window in European past architecture always played the role of visual interface of its’ both sides means inside and outside, also urban facades had worthy of praise coherence and coordination because "the use of the same elements and the same horizontal levels, and especially for belonging to the same typology [8]."

So it seems that the term "urban facade" is an enduring concept in European architecture and is considered as sustainable elements of historical and urbanization developments during different periods. which has always had the same nature and adopted different physical and semantic characteristics only according to space-time position. That is how after the Middle Ages paying attention to the context architecture has become extremely important and turned into one of the most important principles of urban design" [9]. Although the Renaissance citizen had turned from God centeredness Anthropocentric, but believed that an order governs the universe and the nature and he and his house should safeguard this order and comply with the hidden geometry as a small part of the world and nature[10], and even in the extreme case, deemed unimportant what is beyond the form and appearance of the building. after the Renaissance, in the Baroque period "The building knew itself following a higher public space and refrained individual asserting in favor of totality"[11].

**urban facade of Iran’s historical architecture**

Building system of residential areas is so that any manifestation of formation of interior spaces cannot be seen in facades and accepts less drop-down in the passage" [12]. Thus, in passing through passages of neighborhoods in Iran’s traditional cities, the facades have minimum visual diversity because of introspection nature of buildings and "the main materials of facade combination in residential neighborhoods consist of smooth surfaces with mud lined which sometimes entrance elements to the interior of housing disconnect them"[13]. thus "Unity in building systems, components and rules of facade composition materials in residential areas of the ancient period that complied with the same proportions (using Pymvn in the design of residential units), respectively. Caused the residential neighborhoods facades have complete homogeneity as no part is different from the other part "[14]. This form rule of the building takes changes only in the case that reaches a square or open space with a neighborhood or a city
center performance. This square is where the main streets and major passages reaches it. Usually baths, mosques, schools, water storage and marketplace are placed around this square. [15]" Urban facade has more aesthetic diversity in this space and presents different urban landscapes compared to passages ended it. While in residential neighborhoods, urban elements arranged in such a way that guide the person to go and reach the destination and purpose, by their simplicity, immaculacy and light soil color, in urban facades how to combine elements with different compositions, color, decoration and so on is in each case different and in accordance with the purpose that space has been created for it [16] . " This is despite the studies show that " Iran's old courtyards bodies despite axial symmetry in most cases, have had more form diversity compared to the confining body of the squares [17] " This is resulted by Iranian architecture introspection and the greater importance of inner space than the outer space. Because in general " View "and" Show were derided in "introverted culture and emphasis and decoration was very cautious in exterior view and max took shape around the entrance door[18].

Facade role as an intermediary in Iran

In Iran until the late nineteenth century, residences benefited just from central courtyard (private space) to make this relationship and "buildings focused on inside like a blind his eyes are block to out [19]. Since the late nineteenth century, Iranian architectural approach to resident homes changed. Iranians were inspired by Europeans and extroverted residential buildings began to take shape in the new built streets roadside. This attitude contrasted with the residents' introvert culture and residents hided their privacy and private life behind thick curtains or shutters. Between forty and fifty AD, was the height of clearing the southern facade of houses and glass windows covered throughout the facades facing the yard, but residents of the house were not associated with outer space and even continued their life behind thick curtains and metal shutters. A lot of heat and cold transfer into residential units was the only outcome of these windows. In recent years, due to more attention to climate issues and outmoding of the windows, those are small and close to relative balance [20].

Facade did not remain only as a shield and an interface between inside and out. Since the person dress was considered a representative of his personality, The house as a "second dress" should represent the personality, respect and social status of its owner. " in the West architecture facade has a display mode so that shows who lives on it in the first place. Everything is the representative and sign for family personality, everything shows the owners 'social class and property [21].

changes in Iran during nineteenth and twentieth centuries

Third expect in Iran went a different trend from Europe. "In the old Islamic city everything did not specify the wealth and riches of the house owner or resident in the first place [22]. In this regard, in Iran the house remained introverted and any manifestation was limited to the walls of the central courtyard and private space to the late nineteenth century for some reasons such as threat of confiscation and humbled by the Islamic thought. The exterior view emphasis and decoration was very cautious and would shape up around the entrance door utmost. The rest of facade surface was a mud wall that induced impermeability and the integrity of a dam. Traditional architecture knew creating limited to God, so he did not try to manifest and deemed himself as a craftsman and builder. Shayegan says for him values and norms of modesty, intimacy and Hijab were much more important than showing off [23]. If his feet slipped sometimes or forced to art arose on the orders of superiors, showed his viewing art in religious buildings and with less intensity in the non-religious public buildings. Perhaps the bold claim that "Facade "and" Show "were derided in introverted culture and addressing theme was inappropriate working. If there was a show, it would belong to intimates and if the view were held it was behind a veil called the wall of the house.

Facade of modern apartments
Applying tastes in facade has no meaning in modern buildings. But the building designer and land developer must meet fashion and day taste of customer and market to buy residential units in this or that building be done faster. Housing market has created conditions that the architect sees itself forced to shoe off and innovation to satisfy others and stay competitive. It means the owner and land developer looking to bring up their building and attract customers. The client is also looking for housing units that show his financial situation and personality more than what it really is.

**REVIEWING THE FACADE OF THE OLD TEXTURE OF SARI**

Mazandaran province with an area of 23756 km and a population of 2,823,606 people, is limited from the North to the sea, from the South to Tehran and Semnan provinces, from the West to Gilan and from the East to Golestan province. There are 15 townships and 45 cities in Mazandaran. about 50 percent of the cities are located along the coastline.

Sari, located in the foothills of the Alborz mountain range has two mountainous parts and a plain. It is located in longitude of 53 degrees and 5 minutes and latitude of 36 degrees and 4 minutes from the North. Sari in Mazandaran province in northern Iran and the northern part of Iran's biggest cities and is the largest city in Mazandaran. Sari is the provincial capital of Mazandaran in north of Iran and one of the northern part of Iran's biggest cities and is the biggest city in Mazandaran. Sari was the first capital of Iran during the Qajar kings. Sari is divided into three metropolitan areas and its’ population of 261,293 people are estimated according Census 2006.

The following old maps of Sari are shown. All old gates of the city has been turned into nodes and taken their geometric form old gates and markets of the city.

![Figure 1: the map of old gates of Surrey (Source: Library of Cultural Heritage and Tourism Organization of Mazandaran)](image-url)
Due to the fact that the market is joined and inseparable with the city center and historical context and the old Market has formed the old context of Sari, it consists of the Grand mosque, bazaar, Islamic school or seminary, Shrine, historical houses, water storage, caravansary and surrounding the main square of the city.
Figure 4: usages of historical context of Sari (Source: Mazand Tarh consulting company, 2010)

Figure 5: Clock Square (source: author)
Figure 6: Clock Square aerial map (Google Earth)

Identification, analysis and abstraction valued in Sari’s old texture were performed with emphasis on two major aspects: Elements and components. The main elements are: horizontal or vertical rhythms. The height of facade main lines in horizontal rhythms are: the ground floor line, the half floor line, windows (imaginary) lines in floors, skyline and facade main lines in vertical rhythms are: the opening of shops, openings and entrances. In the part of components of openings proportions: windows and doors were investigated. All valuable buildings were analyzed in terms of having native architectural elements and the degree of their impact were considered in determining the optimum ratios.

Sari architectural features and native elements in valuable buildings as follows:
- clay steep roofs
- Ivan with bump and columns
- Console
- tall windows (Eros) and the plurality of openings
- windows canopy
- Spectrum of color white, cream to cool brown

An overview of the current and proposed situation walls, Enghelab St Part I
An overview of the current and proposed situation walls, Enghelab St Part II

CONCLUSION
The impact of building facades on urban spaces is inevitable. It should be noted that being in a beautiful space, not only will have a favorable impact on improving the quality of life, but also it could also prevent the emergence of adverse social interactions and develop optimal interactions. The building facade is the creator of urban facade because this facade makes up the urban facade, and gives the city identity and so the facade building is a cultural identity debate and an anonymous facade, will have a direct impact on urban facade. According to what has been achieved through the study of facade and their effects on urban spaces, it can be concluded that facades of buildings should be able to express the volume inside the building in addition to solidarity with public spaces to reduce the vulnerability of urban spaces in front of inappropriate facades. So methodical design of facade and paying attention to ’originality and beauty give the city identity and reduces the chaos of the city and thus turbulence of the people of city. This process leads to reconciliation of people with urban spaces and on the other hand prevents their remoteness from such places.

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DESIGNING ORPHANAGE WITH THE APPROACH OF CREATING SENSE OF BELONGING TO THE ENVIRONMENT

Anahita Khanbabaei
Department of Architecture, Damghan Branch, Islamic Azad University, Damghan, Iran

ABSTRACT
Children who grow up in a family environment with no love and attachment in an unsafe environment would be under emotional, ethical, social and mental crises. Although the crises make some children involved apparently; in deeper concept and in nature, they make whole society involved in it. One of the difficulties of the society is the issue of orphans. These are innocent children who have lost their family under specific conditions and have become orphan forcibly. In fact, orphan children are victims of the society, a society that has not only deprived them from having warm family that is their natural right, but also can't accept them and looks them as scoria. Problems of these children is lack of sense of security and meeting their needs, lack of self-confidence and lack of expressing problems with right person and lack of being loved by others are other shortcomings and mental and behavioral problems of these children. Deprivation of orphans from presence of parents as basic foundations of family system makes challenge for growth of their positive self-concept more than before. Deprivation of natural function of family can affect not only self-concept of orphans, but also it can affect their perception of future. Disappointed child is a child with negative attitude to him/herself and to future and compared to other children, the children experience less safe attachment in relation with a caretaker. However, need to belonging is a comprehensive need. Belonging means that desire to creating a sustainable social relationship and threatening this need in any manner can cause sense of loneliness. In fact, loneliness is a cognitive and emotional reaction to this threat and demonstrates that there is a gap between actual social relationship of person and desired social relationship. In this study, it has been tried to consider important factors to create sense of belonging to the environment in children to design a space for them, so that they can feel to be a member of society and feel less unsafe and alienation with the environment.

Keywords: Sense of belonging to environment, children, orphan, family

INTRODUCTION
Presence of orphans at the societies has made the societies doesn’t consider them as society members and separate them from other people. Through designing the centers, it has been tried to create sense of belonging to the environment in these individuals, so that they can consider themselves as society members and the probable crime at the society can be declined.

GOALS OF THE PROJECT
The project follows two main goals as follows:
1- Considering needs of children to achieve a desirable and optimized system to decline results of orphanage.
2- Achieving to a standard pattern to design the centers considering climatic and native issues.

HYPOTHESES
Achieving to proper idea and design to:
1- Consider needs of children to achieve a desirable and optimal system to decline results of orphanage.
2- Achieving to a standard design pattern of these centers considering climatic and native issues.

RESEARCH OBJECTIVES
The project follows 2 main objectives as follows:

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Considering needs of children to achieve a desirable and optimized system to decline results of orphanage

Achieving to a standard pattern to design the centers considering climatic and native issues

Recognition of children is a combination of physical and social factors. Behavior and experiences of a child are highly depended on biologic, environmental and social factors. Lack of paying attention to each mentioned factor can affect change in physical factors and mental factors of child and can lead to irreparable damages.

One of the most important issues to meet these needs is a space, at which child grows up. Space and environment can affect physical and mental growth of children. Estimation of each effective need in growth of child needs a space to encompass all factors and instruments to meet needs and provide required conditions.

Architecture as a field that defines spatial and environmental quality for people is able to have proper behavior against this issue and can achieve a proper idea and implement it in suitable designing form through considering conditions of users. Hence, this study is focused on these centers and required space in regard with this goal and their architecture.

**REASONS AND IMPORTANCE OF CHOOSING THE SUBJECT**

Recognition of children is a combination of physical and social factors. Behavior and experiences of a child are highly depended on biologic, environmental and social factors. Lack of paying attention to each mentioned factor can affect change in physical factors and mental factors of child and can lead to irreparable damages.

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These centers are divided to two groups:

- Centers for supplying services to ordinary children (Children hospital, Kindergarten, Center for Intellectual Development, house of culture for children, primary school)
- Centers for supplying service to children with special conditions (Correction and Rehabilitation Center for children, unaccompanied child care centers, nursery, care centers for child with physical and motor disabilities, schools for exceptional children)

The centers are complexes that should be created because of inattention to primary needs of children. The centers and spaces are not only responsible for meeting primary needs of children, but also they are responsible for educating, rehabilitation and maintaining them that are responsibilities of families. Hence, the centers have special features that need specific consideration and designers of these spaces should consider them.

Children in these centers are left and orphan children that there are also some children among them that suffer from physical and mental disabilities. These children are deprived not only from support of their families, but also they are deprived from supports of the society. In some cases that society supports them, it has not been able to meet even a part of their needs.
Visiting care centers for these children also demonstrates this issue. Majority of the centers have not required facilities. In cases that they are acceptable in terms of physical facilities, dominant emotional and mental space on them has been questionable.

Finally, due to the mentioned, designing a residential-care center with required facilities and equipment for orphans is considered. However, the centers should be able to supply service to ordinary children to make relationship of the centers with the society.

**METHODOLOGY**

In order to achieve to criteria and basis of the project to create a suitable environment for orphans and be responsible for some needs and be a center to meet their rights, it is necessary to have firstly enough and required recognition of the children and existential reason and increase in their number and also their mental and behavioral characteristics.

The mentioned issues have been formed based on following classification:

- Library studies: in order to use global experiences and existing problems in Iran and recognition of mental, spiritual and physical traits of different growth ages of children, relevant regulations and issues about orphanage, books, magazines and MA theses have been applied.
- Statistical studies: statistics of orphans or unsupervised children, determining population of the project and other issues based on available statistics of Welfare Administration or other relevant authorities
- Interview with authorities and experts of care affairs of orphans and using their opinions has been effective in detecting spirits and personalities of the children

It should be mentioned that among all data collection sources, field studies, questionnaire and in person visits have played the key role in providing and codifying the project.

**ENSE OF BELONGING TO THE ENVIRONMENT**

General sense to the environment after perception and judgment on the environment is the sense of place and environment that is important factor to match person and environment. It can cause better utilization of the environment and satisfaction of users and final, their sense of belonging to the environment and continuity of their presence in the environment.

This kind of belonging is derived from physical elements and components of the environment as a part of recognition process and human identity. Rijeroes lav Arcas has referred in his studies to important and key role of physical belonging and has called it as rooted issue, according to which individuals stick the environment, along with its physical elements, in mind to form concept of belonging (Javan Foruzandeh and Motalebi, 2011: 32). Physical environment can affect personal attachment through meeting a part of material and spiritual needs of human. Belonging to the place would be continued and empowered, when there is a constructive interaction between needs of users and the environment. Meeting needs and providing functions are the main man-place interactions. Spatial dependence or functional belonging refer to ability of a place to empower people to achieve desirable goals and activities (Livingston & Baileyand Kearns 2008: 1). Physical and functional qualities of place can affect a degree of belonging to place as a position for social activities and dealings n(Ujang, 2009: 158).

In addition to meet a level of human needs in process of activities (the factor can itself affect creation of attachment to place), Physical elements of the environment can play key role in determining individual, social and cultural identity of people. In this regard, Rappaport has emphasized role of social-cultural components in formation of physical environment or has presented theory of non-verbal communication to divide the environment to a series of fixed, semi-fixed and moving physical elements. From this perspective, people derive their desired concept and meaning based on their own cultural codes and symbols. In his opinion, place in this approach is changed into a symbolic place, in which each element indicates a part of social culture of the environment in symbolic form (Javan Foruzande and Motalebi, 2011: 31). In this regard, in studies of Kevin Lynch (Lynch, 1997: 170-178),
role and importance of physical factors in formation of significant relationship between person and place is emphasized. He has emphasized concepts such as structure or orientation, adaptability, transparency and legibility to consider role of physical factors. Another element is meaning of official structure, which refers to how to combine components in small scale and refers to concept of sense of navigation in large scale. Adaptability means that can single form of a place be adjusted with single form of its activities and features of a society? Transparency refers to direct perception of the environment by senses and legibility also refers to this issue that to what extent residents of a habitat can make proper relationships with each other through symbolic physical elements.

DIFFERENT LEVELS OF SENSE OF PLACE
- Belief rootedness
- Unconscious rootedness
- Relative location
- Alienation with place
- No place

Steps of sense of place
- Awareness of being in a place
- Belonging to a place
- Sense of space
- Unity with goals of place
- Participation in place
- Sacrifice for places

HILD
Child is a sense with age below 18 years old; unless lower legal age is determined based on national codes (Convention on the Rights of the Child, 1998, paragraph 1).

ORPHAN CHILD
It refers to a child who has no real supervisor and parent for some reasons permanently or temporarily (Instructions of Welfare Organization of Iran, 2000, p.5).

FAMILY
Family refers to members in home and relatives, spouse and children and parents. The desired concept by this study is parents and children as the smallest social unit.

Family: family refers to members separated from each other including father, mother and children and the element for unity of the family is divine gift called emotion. Family is the basic unit of the society and the main center for growth and transcendence of human.

Constitution of Islamic Republic of Iran has defined family as follows: family is the basic unit of the society and the main center for growth and transcendence of human and belief agreement for formation of family that can pave the way for interactional and growing movement of human. Providing facilities to achieve this goal is among responsibilities of Islamic Government.

ORPHAN
Orphan refers to a person who has lost father; an animal without mother and among birds, it refers to a chick without parents. In jewelry, the term can be applied for unique and precious object like Orphan Diamond, which refers to unique and precious diamond. The word "orphans" is applied for a plural form of orphan. When a boy grows up or a girl marries, they won't be called as orphan anymore.

BOARDING CHILD
It refers to Children who are far from their family for any reason and live in boarding centers (Babaei, 1990, p.9).

CARE AND EDUCATION
It refers to all professional activities in field of protecting rights and dignity of orphan children and adolescents and providing their physical and mental health and providing conditions for their spiritual, social and academic growth and their autonomy (Instructions of Welfare Organization of Iran, 2000, p.5).

Mentor or assistant refers to person who is responsible for caregiving to several children and in other words, mentor is Plenipotentiary Representative of boarding management.

NURSERY
It refers to a place to maintain children received from early ages to the end of age 5 and educate them.

BOARDING
It refers to a closed place, at which children live with each other far from their families. Nursery, orphanage, quasi-family and Center for Children are also synonyms for boarding. In other words, boarding is a place that encompasses some people who are deprived from their parents that are their divine emotion.

CHILDHOOD
Childhood refers properly to needs, mental points and special world of childhood. Childhood is considered as the first step of growth and in addition to be related to growth steps, it is independent stage of human life with specific encouragements and problems. Children are growing people, but related to their specific age group. They are people similar to others who attend activities of their world. Hence, after biologic aspect, it seems that childhood refers to a stage of organism growth that has been always existed; although it has been explored over the decades. In fact, the stage is the foundation for all periods of life (adolescence, youth and adulthood). The first stage of growth of children is to create absolute trust and to destroy distrust capacity in them.

According to emphasis on creating sense of belonging to the environment, when child enters to a properly designed internal space, sense of belonging would be created in him/her after seeing a space in accordance with his/her age and spirits. This is because; child feels satisfaction and tendency to trust in the environment introduced.

Through considering the concept of childhood and world of childhood, literature of children has been also created. Child literature refers to works created through recognizing needs of child to entertainment and considering qualities of mind and perception and emotions of children to fill their free times (Tabrizian, 2007: p.2).

REASONS OF EMERGENCE OF CHILDHOOD
Three factors are important in field of creation of concept of childhood. Two factors out of them are objective and the other one is subjective factor. Two objective factors are as follows:

1- Emergence and expansion of printing industry
2- prosperity of school and public education

Although both of these factors return to long past in historical terms, expansion of their achievement and effect is related to later times. Third factor is associated with the evolution created by opinions of two philosophers of 18th century, John Luck and John Juke. They believed that education should be based on nature of child and John Luck has also referred for the first time to relationship of time process and human perception and has called child as a whole and has mentioned that growth of personality and body are as important as growth of rational abilities. When children used to be usually maintained at home, he claimed that children should be allowed to play in open space as much as possible. He believed that education for children should be through playing and entertainment and simple and understandable works, along with enjoy, should be provided for them (ibid, p.2-3).
HISTORY OF SUPPORTING ORPHANS
Historical literature of supporting orphans across the world:

Social problems like poverty and needs, illness and disability and orphanage have been existed always over the history at human societies and different weaknesses have been also existed. Orphanage is one of the social natural phenomena existed in human societies since long ago. Protecting orphans has long history, so that Hamoorabi, king of Babel, has been responsible for caring widow women and orphans by 2000 years B.C. After the said history, no evidence is existed in this field to the early 16th century. However, according to historical evidences of social life of human, supporting orphans and parentless children has been existed in majority of societies in a non-organized and non-professional manner under impact of charitable, humanitarian and religious incentives by people and social and religious institutes based on culture and beliefs of the societies.

Since early 16th century, in some western countries, the issue of protecting and supporting the poor and orphans was considered in codified manner and through efforts of people affected by academic and thinking movements. The Act of ((Henry VIII)) was the first act in England to handle situation of the poor and by 1563, the government of the U.K enforced some regulations in field of the said act. By 1597, in order to care after disabled people, the old and blind people, special centers were established and there, special care used to be given to such people.

With the beginning of 17th century, Poor Law ((Elizabeth I)) was enforced at the U.K. At the U.S.A, the first orphanage was established by 1740 and it was an institute to care after children who had lost their parents as a result of death of parents, divorce and poverty. The centers were historically among the first supporting centers in industrial countries of the West. Until before 1800, there were only 7 institutes in U.S to give care to poor, homeless and left and criminal children. Each center used to be managed by private sector. By 1930, number of these centers in different regions of America reached 26 units to care after 2816 children (San'atinia, 1991, p.4, 5).

HISTORICAL LITERATURE OF PROTECTION OF ORPHANS IN IRAN
Historical evidences indicate that in Iran before Islam, in presence of all differentiations of poor and disable orphans; the society has had many centers to keep orphans and families used to care after such children based on their old religious traditions.

There is no codified evidence about formation and establishment of orphanages in Iran. According to available historical evidence till 1901, these centers have not been established in Iran till that time. In the first secret meeting to prepare constitutionalism by Feb 23rd 1905 at the house of Nazem Ul-Asalem Kermani, a part of the book "Ibrahim Beig" referring to interior minister can indicate lack of such center named orphanage to maintain and educate orphans.

Since about 100 years ago, with the entrance of some issues from West to Iran, the phenomenon of orphanage was also entered to Iran, so that evidences indicate that in more than 100 years ago, no orphanage has been existed in Iran and there has been only one place that has been established by Germany Government in Khui City for this purpose. As it is mentioned in Logbook of Ibrahim Beig, the thought of establishment of orphanage in Iran was for the first time for Naseredin Shah as a result of his travel to abroad and some signs of it are clear in Logbook of Ibrahim Beig (San'atinia, 1991).

ORPHANAGE PHENOMENON AND FACTORS AFFECTING IT
The motivations and reasons for sending children to boarding centers:

Factors that can make children to be sent to boarding centers by family or other authorities can be divided to 2 general groups as follows:

NATURAL FACTORS:
Human societies have faced always natural disasters and events like flood, earthquake, Drought, hunger and other problems, as a result of which some children used to lose their parents and relatives and become orphan and as a result, the society and government were responsible for protecting them in a specific manner. Although the disasters have abundant bitterness and challenges, the happiness
remains in terms of acceptance of the children and caring after them by relatives and humanitarian and kind people (e.g. earthquake of June of 1991 in Gilan and Zanjan).

Unnatural factors:

These factors are various and are mostly in form of individual, family and social factors and as a result of lack of proper performance and behavior of family and society against them and each other. Most cases of reception of orphans in Welfare Organization are for these unnatural factors:

1. Unknown place of parents
2. Divorce and separation of parents
3. The death of parents or one of them
4. Leaving family by father
5. Addiction of the parents or one of them
6. Moral-social incompetence of parents
7. Incurable disease of Parents
8. The economic poverty of parents
9. Missing parents
10. Disorientation, confusion and incompatibility
11. Betrayal of both parents
12. Religious and class differences between parents
13. The large number of children in the family
14. Stepfather in the family
15. Stepmother in the family
16. Remarried parents
17. The imprisonment of parents or one of them
18. inadequate housing and Location
19. escape of Children from families because of having a violent, tyrannical and unstable family

The mentioned factors are the factors for reception of orphans in welfare organization centers and clearly, all of them are resulted from unorganized family in comprehensive aspects that can pave the way for many Prosperity and adversity of family.

PROBLEMS OF ORPHANS

Identity-personality problems:

Being separated from family, lack of experiencing dominant relationship among family members, lack of sense of belonging to special society, special place and special identity make the children confused in childhood and create main personality and behaviors problem for them in future. Closeness of maintenance system of these children to family system plays key role in meeting the main problem.

SOCIAL PROBLEMS

Separation of these children from society and people, maintenance of them in places that are managed in public manner and in form of institute can prevent them to have social relations and even being in contact with daily challenges in the society that have become common for ordinary people.

Therefore, it seems that systems and processes of designing these places should be in such a manner that they can reconstruct fluidity and current of life out of these places in smaller scale on one hand. On the other hand, they should enable children in these places to be in contact with the outside environment, so that the complex can be something more than a place with Impenetrable fences.

COMPARING FUNCTION OF HOME AND ORPHANAGE

- Function of home and orphanage:
In family institute, children are under fixed education and protection. In this process, family can be considered as the focus of love and kindness and training emotions and transferring civilization and culture to child and can result in evolution and mental and social balance of child. However, no fixed and specific pattern in orphanage is existed to train children during living in orphanage with different people and different characters and beliefs.

In orphanage system, children can attach to no one and can feel no one of her/him. Employees come on certain time and go on certain time. Nothing is fixed for children. In short, personality of children in orphanage is considered as a game and sense of belonging is not remained for them through such dual personality.

Social relationship of family and lack of it in orphanage:

Children grown up in family and experienced social events and have had relationship with other relatives and friends and individuals are normal and active people, who are able to manage their life with their self-confidence.

However, for children of boarding centers, there is no possibility to communicate family members and social institutes. Therefore, they grow up in a closed environment and can't gain social and normal personality. Hence, the individuals are mostly weak and dependent on others with specific behavior and unable to solve their own problems.

Psychologists and sociologists believe that the best environment for growth of spirits of children and stylizing their emotions is family. In addition to food and clothes, children need kindness of their parents and children who are deprived from such kindness and live in boarding environments like nurseries and orphanages and other centers suffer mostly from mental disabilities and nervous disorders.

Love of a woman or a man can satisfy soul of only one or two children; although it can't be useful for 50 children in an orphanage. Love and kindness of a caregiver by itself can't style and grow emotions and feelings of the children. Hence, many old and new thinkers and psychologists consider family as the best environment for physical and mental growth of children and consider orphanage as a prison for body and soul of child. This has been also emphasized by Islam and it believes that maintaining children in public places and providing food and clothes for them is not enough, so that they can be grown up in family and be behaved with kindness and love.

In this filed, Prophet Mohammad has mentioned that "the best home is that home, at which an orphan is behaved with kindness and love and the worse home is that home, at which an orphan is behaved with violence".

**WHAT SPACE CHILDREN LIKE?**

Children are mostly interested in places where they can play during the day. Children implement what is in their imagination during playing games. They need an adequate space to implement the imaginations. Spaces should be designed in such manner that the imaginations are not limited to children and they can change them constantly. Training spaces of children should create a part of sense of peace and attraction of House for Children. in such place, children feel as they are in their own home and they like to enter such places and are interested in it (Dehghani, 1997; p.29).

Division of the space to some sections with different degrees of utilization and variety of using it is interested by children. Children need open space, so that the spaces can provide conditions for their mobility and activities, noisy games, child activities, jumping and running for them. One of the certain useful indices of educational and training buildings is to have enough space for mobility of children.

Finally, the more the authorities are able to make relationship between children and sky, green space and nature and open land, the more the desired space is created for them and this is same environment that can empower creativity and innovation of children (ibid, p.30).
Through considering designation and materials, a space should be created with following features:

- Children can feel safe there
- Be adjusted with the natural environment
- Rooms, classrooms and other spaces should be categorized. The categorization can enhance ability of recognition of children and at the same time, children can feel themselves as members of a large society.
- Internal spaces should be designed in such manner that they can motivate sense of curiosity of children. Structural elements like columns, beams, main beams and walls should demonstrate their duty and children should feel energy and power of the elements and perceive skeleton of the loading structure through their sense of curiosity.
- Creating a happy and hopeful space.

Through designation and materials, happy and hopeful space should be created. Sloped colorful roofs maintained by columns and beams, transparency and natural lighting in spaces, using colorful elements are good instruments to create a happy and hopeful space. Colors remind different concepts for children.

**CONCLUSION**

Children are able to recognize a building among other building while evaluation of a situation and can distinguish buildings; although differentiation of people and their activities is difficult. In this regard, people and their activities are more important than architecture for children. Moreover, this issue is originated in a reality that claims that human and his activities refer to functional features and characteristics more than quality of constructed environment around them. Because of same condition and same preference, children are prepared to accept a good and beautiful form to cover their shortcomings. Beauty of objects emphasizes a function not only in view of children, but also in view of adults. Hence, one architect has mentioned that clearly, legibility degree can't be determined by architecture, but also it can be determined through transfer of contractual concepts to use constructional materials and functional facilities.

Contractual concepts, along with variety of motivations and stimuli of life and their functions, can be considered as a primary challenge and especially a competitor for architecture, which can invite young architects to use output of this work. As a result, these issues would be realized by children. Hence, nature is a complementary member for the manmade environment. Combination with environmental texture is an irrevocable issue; although in texture that the building is related to children.

Children are accustomed to things in their life automatically and actively. Hence, it is not surprising if they want participate in forming their daily life and changing it and don't want to cope with predetermined conditions. Confirmation and acceptance of change in home for children can clearly reflect identity motivations, which are introduced by children and are resulted from their perceptions.

Moreover, children should be able to be developed independently regardless of many limitations on behalf of teachers and authorities. The mentioned issues can create tendency to enhance self-confidence and learning, along with innovation and reaction to challenges, sense of responsibility, learning new skills and sense of being systematic and valuable.

**DESIGNING STRATEGIES**

Today, it has been proved that children by themselves need no physical protection, but also all of their existential dimensions (mental, emotional, personality, intellectual, cognitive and moral dimensions) should be considered.

1.- Eliminating and changing dormitory and public salons to suites
2.- Dividing and sectioning residential units to private and public sections
3.- Designing personal facilities like cage, bed and other personal facilities
4- Creating a space between complex and district that can lead to make communication between children of the complex and other children.
5- In order to avoid distract others; a sitting room should be designed for residents of every several rooms.
6- Creating intangible border between the complex and surrounding area (eliminating fens and impermeable walls)
7- Presence of children in context of common and routine activities of people
8- Designing residential units beside each other as intimate neighbor units
9- Designing residential units responsible for certain number of individuals
10- Creating features and spaces of a house in units
11- Psychology study of children and recognition of spaces, colors and textures interested by children
12- Considering principles and standards of designing spaces based on physical dimensions of children
13- Paying attention to principles of safety and firefighting
14- Creating suitable landscapes between closed and natural space
15- Creating physical relationship between internal and external space
16- Using flowers and plants in space
17- Creating spaces with suitable colors and contrast
18- Creating green balance in floors

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NEW ERA GATHERING MATHEMATICS AND ARCHITECTURE

Saeedeh Dehghani Najhvani
Department of Architecture and Urban planning, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran
sd_lotus@yahoo.com

Bahram Shahedi
Associate Professor, Department of Architecture and Urban planning, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran
bshahedi@khu.ac.ir

ABSTRACT
In this study, it has been tried to recognize the facilities of digital environment which has emerged a new literature in creating architecture works, by recognizing the world of digital analyzing consisting for motion of imaginations and illusions of architects and the discussions relating to building and indicating technical details and performing steps and various analyses. Research method in this study, is qualitative and kind of analytical–descriptive and the general method of data collection is the type of literature Regarding the studies made in this field this literature begins from the primary steps of concept design and ends to the step performing a building project. In the design step, one can make analyzes and various assessments using computer environment and algorithmic base in a short time and by the least cost. Digital structure and production is the last step of the process of digital design and production in which wing of proper equipment and hardware is inevitable. From the view point of cohesion the process of digital design and structure, what is important is the way of connection of designing soft wares to these hard wares (structure machines). In the conclusion, we introduce the mathematics and algorithmic patterns and the way of using them and applying them in some case samples. The findings showed that patterning and designing with computer soft wares and using the algorithms cause enabling in design and industrial production of buildings and we todays with nesses that creativities in using the materials and new ones of them has been emerged by digital facilities, simply, new formations would be designed then built and survey would be done on them by using the algorithm of the relation between the materials and the methods.

Keywords: Digital architecture, Algorithmic, designing digital, structure mathematics, modern architecture

INTRODUCTION
Industry civilization occurring with industries revolution and by relying on scientific advances in various fields of life, represented a new way of life to industry societies, and defined a new frame of life to people. Toffler called it regulation of industries societies. The regulations had changed all fields of life of people and caused some subjects in industrial societies[1]. In a way that now it is for several years that computer is serving human kind as a powerful calculator machine and it does complicated and long time works in each field instead of man computer works as a calculator in medicine, military, geography, aviation, engineering, entertainment and every corner of science and technology and it gives us tools and facilities in a that today, world is dependent to computers for doing the simplest bank operations and controlling marc aircrafts according to what mentioned, it's desired to know that this technology advance has any effect on architect as well, or not the emerge of the new lifestyle based on machine and industries production, affected by deep cultural influences caused by big changes and developing trans formations in life of man culture and the components was fully changed facing with the new system, and new values governed on society, as we know, through the history, the
architecture has been the epitomizer of the tendencies of the society and there's a deep relationship between the architecture and the changes. Architecture influenced by the changes exposed on the society, has changed a lot one of the most important effects is seen now in the present age and the communication age. now that developing application of computer and inventing internet is governing has created on important age in the developing process of architecture it has been for a long time that we witness existing samples of architecture projects which are not sorted and known by old titles of past decades, the se project, which are known by titles such parametric and algorithmic architecture, are originated from new process of design that seem the role of computer was so important on them and it plays a major role beyond a mere simple machine[2].what is seen today and in updated projects of architecture is serving computer by algorithms, codes and programs. the resulted architecture, can so involve environmental , historical, regional, cultural parameters as a product since it is dependent on the various items and parameters in the process of production and reply to them by controlling and leading the design. now we want to know how advanced and progressive alga remind mathematics make changes in the way of thinking of architects to space designing and method of designing modern architect and structuring them caused an emerge of a new age of architecture design titled algorithmic design and parametric architecture[1].research method in this study is qualitative and anal, descriptive and the method of data collecting is typed librarian[3].

**Fig.1**

**ALGORITHMS IN DIGITAL DESIGN**

in this stage should answer some questions. what is algorithm? Algorithm is n identified set of clear orders in a series that can do determined operation, algorithm is the process of problem solving like following some instructions it is in fact solving problems in a wronged, ordered was in order to generalize that to similar problems[4].simply it is similar to making a food steps of making a food steps of making a food are providing raw materials, preparing them, mixing them cooking and serving the food clearly in this instruction, the number of demanded food, the amount of it, quality of raw material and order and time of each step affects the final product if the order of making a food is conversed, or one step added or least, there would be anew algorithm that leads another result. the changes can lead to a better results or a similar result and also could lead to a worse result. however changing the order of steps and using random variables in a process. could lead to solvation's that are not only no well know but also in considerable difference with the original purpose of the design. why algorithms are important although an algorithm can determine the way of doing sth in a written why and determine a common rule in this term for doing an operation for us but in fact it is done by changing it to codes and determined leg of programming and performing in the computer, the powerful calculator of computer and it's speed and accuracy so we can transfer bulks of complicated calculation with necessary orders to computer and just wait for accurate fast replies how algorithms can help to design algorithms in award definition, is a set of step by step order that can do all calculations and operations in programming language so it can burn mange activates designing to instructions and give data be computer to do the operation in this term we can say instead of drawing the whole components of the design, one can transfer data for the need of the design in an order way to he computer for making done in this step, the designer has the opportunity to make form using coding and programming if in the past designing forms in 3D programs was done by structuring and editing one by one of blocks directing by user connection of these software's and choosing the available blocks in libraries, now new software's provides the possibility of algorithmic development of from in designing space so that by programming the form, the new revolution of digital in design field emerge[5].

**Fig.2**

Algorithm a determined set of orders that receive the data as input, then process it and finally replies as an put. the designer can define data another way it comes to algorithm and the way of process by the algorithm, the result of this process would be shown as a form in the virtual space in this
process depending on the need of designer, one or hundreds of factors would be designed and edited and in virtual space as a result, designer in this process is not busy with producing predefined form he/she sets a series of rules and organize an algorithm that based on processing that, the architectural form is made so we mag say that architectural form is not the only main topic, but the process of making that is under control of architect. in this process all the parameters affecting on design an forming space is exposable on algorithm and architecture is formed in a space influence by various parameters affecting on project and the definition of the way of effectiveness architects and designers can brief the most complicated spaces in an algorithmic way and turn the space complicatedness to calculative cumulativeness and control the conditions intelligently by themselves by transferring that to computer that has high calculating power and by information management and understanding and exposing the various effective parameter on architecture, progress the design in the virtual space[2].

DESIGN IN THE VIRTUAL SPACE

COMPUTATIONAL GEOMETRY

the combined knowledge of computational geometry is as branch of computer that studies algorithms with geometrical function actually for solving geometrical problems it use algorithmic solvation's and has various applications in field of robotic, geographies in formation system, complex axis design, designing and forming digitally, communications, cellphone are so on it help designers in so many fields finding geometrical solve for questions having more than one correct answer and improving algorithms to find the best answer are the main use of that or searching for architecture solvation's in which there were numbers of effective factors on design and based on scaling those factors, the find assessment should be done. it can act from the primitive design to the details[6].

Fig.3

GENERATIVE ALGORITHMS

computational geometry consists of a developing circle of algorithms that can be replying to geometrical needs of various fields of science but clearly, generative algorithms are the ones which the capability of making reply design with algorithmic methods and use them they cover special problems for space design and architecture in CAD software in combining with facilities and ordered[2]. As an example, can name mosaic or tile algorithms that can device a surface to thinly divisions and the repetitive element is again increased and increased on the surface on the mosaic these algorithms in architecture of surfaces that the form of components in crossing change, little by and is follower of arch of the plates are so usable. in the following we explain cases of the most usable generative algorithms findings this classical structure of forming in a research study was survey and assimilated in an algorithmic space the purpose was that cache plate form was to weave in the design space wisely this algorithm by the fabrics. for the fabrics no matter size or material algorithm could weave the fabric with simple patterns or complicated ones. it acts as a common pattern of designing and the product is created as a geometrical form in the virtual space in the next stages, this product could be in different was, and with the definition of size mater and find form in the profile of building, ceiling, in eternal cover, and the separator.

Fig.4

Spongy shells: in a research study on developing and designing the building spongy shells, a generative algorithm for making a system based on a biological pattern was studied in this project, first the features of form, shape, structure and geometry of radiolarian a one-cell creature was studied since the spongy shell of this creature studied in other research's, various potentially in forming the structure were modelled in this project it tried to study the process of forming this shell in nature and assimilated in algorithmic space this process was planned in some stages. the result was developing an algorithm which could divide the plates with free forms based on geometrical odes of this organism made hole in it so that a sponge come out at the end, we used other alternative algorithms to formation job so that the shell would be formed by the systems based on even part and laser cutting technique the
result of this process was to design and produce a shell that was formed based on different factors in this research project, we used different algorithms to simulate design and formation of a shell that can be applied in architecture the branch of covers in future[7].

**Strips:** systems based on strips use tong, thin plates and make them resistant as well as a geometrical, regulated structure these systems that could use waste and recycles in some cases turn non resistant trifle to a system which can have functions like plates, walls and covers[2].

**OPTIMIZATION DESIGN**

Optimization is the complex point of the design circles analyze in this method, there has been imaged determined conditions for a good architecture and by repetitive design and analyze one or some recommended design optimize that design to match with good concentrating on one choice and choose the best choice by looking at possible ones.

optimization, is a activity in repetitive circles in each of round these circles, desirable choices are formed by optimizing the former ones and one some of them that are better would be chosen these choices are of ten great archi forms and organization that finally lead to designing the components by choosing a find choice.

**Fig.5**

Architecture design processes always are able to present more than one solution for a certain question. designers in most cases present choices for design so that they can choose the best choice by seeing the pros and cons optimization also is used in conditions that its possible to present more that one answer so it needs to be optimized the criterion used to optimize architecture maybe not always quantitative but architects try to turn the concepts effective on design to digital qualities optimizable through algorithmic way optimization could have useful functional in replying to environmental factor, in eternal ecosystems, near to the building. distribution of operational system of the building preparing the scheme for build however the process of design based on digital building. consists ethnics and methods that in the past years. have had developed a lot considerable part of these methods and techniques depends on the type of work and digital machines mechanism[8].

**ALGORITHMS IN DIGITAL BUILDING**

we can name a product process digital, just when the techno's used in that process have a automatic relationship between computer model and digital formed of the product and process on one hand and the stage of production on the other hand. it means in the process of production, these is no need to human existence as the render factor or interpreter of digital model for the machine. the process can involve extensive board of activities. this range could consist producing trivial pieces of a building to assembling the main parte of a building for achieving the final form. maybe in some cases, a process would not be digital totally and part of it should be done by human but other parts done by computer and equip mental. also maybe in a process and digital production man works in order to control the process of design, production, monitoring and even in some cases leading also to digital process meaning full, performing it must be necessary and justifiable this justification can bee getting the work done in shorter time or economizing that and lowering the costs or increase the accuracy this point is so important in the digital production processes because in case that using the digital technology doesn't lead to optimization of the product qualitative or quantitative applying that would be turned into just an unnecessary and formal apply the history of emerging digital production he world of analyzing digitally came out to help design for architecture near since 1960. at that time projects like Sydney porch house were at the stage of design and for modelling and programming it performing was computer equipment's seemed necessary little by little by raising facilities coming to the field of architecture design has changed a lot and forms had been led to shapes that mostly had no restrictiction in building them[5].
Fig.6

the first questions rising is that how design and performing such projects are made or actualization of surfaces and fee archs show in these designs are possible by which tools[5].

Digital architecture modern tools of computer, as simulate projects and designed them that before that with classic methods was not possible these works have brought a lot of variety to the building industry at a short time found a posited in business world however from the beginning, the structuring, the main challenge facing that archi and for complexity and impossibility of building may of these projects caused critic in such a way that conservative criticizers introduced this kind of archi, appropriate for magazines that can just illustrate beautiful images but can not turn into reality (journal architecture) although few architects gradually tried to perform some of their projects but the challenge of build apposed to digital flow of archi was so serious. modern archi needed new tools for being done. in these conditions a curate tools could be a proper reply to this subject in development of parametric archi, the topic of digital building was important as designing digitally and helped it's growth now we want to study the subject in terms of history tools ad methodology[2].

NUMEROUS PRODUCTION IN MODERN ARCHITECTURE
one of the effective factors on creating the idea of modern architecture was industrial revolution that created the new methods of structuring and presented solutions available with occurring industries revolution, new protectors and also new problems emerged and caused creative and sensitive ergative recording to the current needs[9]. in this regard modernism brought about an important idea: pre structuring and numerous production of buildings. idea of building numerously, in modern industry that came out from industries like automobile came to the building structures building in modern architecture should have assembled numerously in separate parts besides all the virtues and flats of technique of pre structuring a vital question raised should the buildings and the parts be so repetitive and similar to this extent these gray, big, boring buildings were missing quality of prettiness and statured projects like this gradually caused criticism of all people although for countries numerous structuring and cheap housing was so proper but these buildings and borings complex gradually turned to places with social problems for livings of the people and typically caused a fault of idea of numerous structuring of residents complexes and modern living so that would become, symbol point of death of this type of buildings solutions that industry found against the problem gradually turned back the positive points of numerous structuring to he construction[2].

CUSTOMIZATION NUMEROUSLY
concentration on personalize the goods in inducting and combine with the flow of numerous production, ident of mass customization came to produce goods and services[10]. mags customization means producing customized goods numerously by digital machines these system can combine low prices and positive points of production with flexibility potential in digital production and produce ports and customized goods for different people frank pillar finds mass customization the design process of product with help of customer in away that the needs of that customer would be met regarding the variable item in those goods the believes that this process would be done in a determined space but flexible mass customization formed an idea by providing similar parts digital machines and maybe it leads architecture which was not successful in mass production to mass production of customized goods. this subject way connected to current archi and the result, way merging a new method of archy in a digital production and design combination model[2].

DESIGN TECHNIQUES FEW DIGITALIZATION
one of the most issues in archi (digital) is considering the parameters of production, from the beginning of the process and registering these parameters controlling in design algorithms. in such a way that the product would have the capability of being produced in fact the designed form could be influenced by the structuring factors from the beginning so that any move, tubist or bending, size or what ever face the stuttering with problems would be eliminated[11].
So that the final form based on these criterions would have the capability of bang structured also for exposing deformation seemingly in opposed to economy of the project, today been turned into a realistic path from a future idea by the changes raised from mass customization facilities and processes of digital structuring and the experienced experts have the ability to build so complicated buildings. these facilities not only have the capability of structure but also define the ways of structuring for future digital structuring is a process in which they use machines and equipment's digitally for producing for producing parts needed for a project they use types of digital codes provided by digital design process for updated designees. this project is as important as digital designing since the tendency for the beauty in the current world is leading increasingly to use complicated elements and having problem in produce in classic way so turning complexity of the process to digital machines can be a smart decision in such conditions. design in digital places with all the formation complexities is done and the structure stage leads to accurate (digital) machines and turn the building construction from an with low level technology to a high level one some techniques and methods of working digitally are techniques based on cutting material increasing material decreasing them ways of deformation using absorption and heat that each is proper for machines that do the related job in the process of structure and production according to these techniques different methods of designingly modelling the parts are developed to ply for the needs of the construction part the designer prepare the files related to needs of digital machine and begin to structure after ending the sign stages and preparing parts to exon case studies a at end, we try to know the modern archi buildings and have the discussion of applying algorithms in design structuring or both and postpone saying how to use it modelling and design by software's depending on algorithms cause capability in design as well as industrial production of buildings. today we witness creative we forms are designed then come out of and tested by also of the relation ship between material and methods one of the advantages of this system is to test persistency and functions of material by assimilating and modelling the form before building that leads to observe each scheme before building it form and space in past archi have just one answer that commonly has no second answer for design parts and collaboration of different forces forming form and space enable forms. morphology comes typology for grouping answers possible so according to new function of design and product digitally we can forget classic methods[8].

INTRODUCING CASE STUDIES
ALIANZ ARENA STADIUM
The stadium construction began on 21 October 2002 and was officially opened on 30 May 2005. The primary designers are architects Herzog & de Meuron. The stadium is designed so that the main entrance to the stadium would be from an elevated esplanade separated from the parking space consisting of Europe’s biggest underground car park. The roof of the stadium has built-in roller blinds which may be drawn back and forth during games to provide protection from the sun.

Fig.7

- Total concrete used during stadium construction: 120,000 m³
- Total concrete used for the parking garage: 85,000 m³
- Total steel used during stadium construction: 22,000 tonnes
- Total steel used for the parking garage: 14,000 tonnes
- The first of its own digitalization design process

EDEN PROJECT GARDENS
The project was conceived by Tim Smit and designed by architect Nicholas Grimshaw and engineering firm Anthony Hunt and Associates (now part of Sinclair Knight Merz).
Davis Langdon carried out the project management, Sir Robert McAlpine and Alfred McAlpine did the construction, MERO designed and built the biomes, and Arup was the services engineer, economic consultant, environmental engineer and transportation engineer.

Land use consultants led the masterplan and landscape design. The project took 2½ years to construct and opened to the public on 17 March 2001.

The Core is also home to art exhibitions throughout the year. A permanent installation entitled Seed, by Peter Randall-Page, occupies the anteroom. Seed is a large, egg-shaped stone installation displaying a complex pattern of protrusions that are based upon the geometric and mathematical principles that underlie plant growth in which all these forms are provided throw many digital occupation and analyzers of its own time in mathematics and design process.

Fig.8

JEAN MARRY TJIBAO BY RENZO PIANO

The building plans, spread over an area of 8,550 square metres (92,000 sq ft) of the museum, were conceived to incorporate the link between the landscape and the built structures in the Kanak traditions. The people had been removed from their natural landscape and habitat of mountains and valleys and any plan proposed for the art centre had to reflect this aspect. Thus, the planning aimed at a unique building which would be, as the architect Piano stated, "to create a symbol" ..."a cultural centre devoted to Kanak civilization, the place that would represent them to foreigners that would pass on their memory to their grand children". The model as finally built evolved after much debate in organized 'Building Workshops' in which Piano’s associate Paul Vincent and Alban Bensa, an anthropologist of repute on Kanak culture were also involved. The precursor for this cultural centre was the first cultural festival held in 1975 in New Caledonia, which was a focused celebration of Kanak culture. The Melanesia 2000 Festival was also held at the same venue where the centre has been established now. The centre is also termed as "A politicized symbolic project", which evolved over long period of research and intense debate.

Another aspect of the Kanak's building tradition was that it did not fit in with the concept of a permanent building. They lived in temporary type of buildings made with locally available material which needed to be replaced from time to time in the subtropical climate. This involved a wood frame building built on earthen plinths and with roof covered by thatch. The form of the building also varied from island to island, generally round in plan and conical in the vertical elevation. They made the houses in groups with the headman’s house at the end of an open public alley formed by other buildings clustered along on both sides. Trees lined these alleys with a shady central gathering. This theme was adopted in the Cultural Centre planned by Piano and his associates.

An important concept that evolved after deliberations in the 'Building Workshops', after Piano won the competition for building the art centre, also involved "landscaping ideas" to be created around each building. To this end, an "interpretaive landscape path" was conceived and implemented around each building with series of vegetative cover avenues along the path that surrounded the building, but separated it from the lagoon. This landscape setting appealed to the Kanak people when the centre was inaugurated. Even the approach to the buildings from the paths catered to the local practices of walking for three quarters of the path to get to the entrance to the Cases. One critic of the building observed: "It was very intelligent to use the landscape to introduce the building. This is the way the Kanak people can understand".

Fig.9
SYDNEY OPERA HOUSE
Stage I commenced on 2 March 1959 with the construction firm Civil & Civic, monitored by the engineers Ove Arup and Partners. The government had pushed for work to begin early, fearing that funding, or public opinion, might turn against them. However, Utzon had still not completed the final designs. Major structural issues still remained unresolved. By 23 January 1961, work was running 47 weeks behind, mainly because of unexpected difficulties (inclement weather, unexpected difficulty diverting stormwater, construction beginning before proper construction drawings had been prepared, changes of original contract documents). Work on the podium was finally completed in February 1963. The forced early start led to significant later problems, not least of which was the fact that the podium columns were not strong enough to support the roof structure, and had to be re-built.

The shells of the competition entry were originally of undefined geometry, but, early in the design process, the "shells" were perceived as a series of parabolas supported by precast concrete ribs. However, engineers Ove Arup and Partners were unable to find an acceptable solution to constructing them. The formwork for using in-situ concrete would have been prohibitively expensive, and, because there was no repetition in any of the roof forms, the construction of precast concrete for each individual section would possibly have been even more expensive.

The design of the roof was tested on scale models in wind tunnels at Southampton University and later NPL in order to establish the wind-pressure distribution around the roof shape in very high winds, which helped in the design of the roof tiles and their fixtures.

The shells were constructed by Hornibrook Group Pty Ltd. who were also responsible for construction in Stage III. Hornibrook manufactured the 2400 precast ribs and 4000 roof panels in an on-site factory and also developed the construction processes. The achievement of this solution avoided the need for expensive formwork construction by allowing the use of precast units (it also allowed the roof tiles to be prefabricated in sheets on the ground, instead of being stuck on individually at height). Ove Arup and Partners' site engineer supervised the construction of the shells, which used an innovative adjustable steel-trussed "erection arch" to support the different roofs before completion. On 6 April 1962, it was estimated that the Opera House would be completed between August 1964 and March 1965.

Stage III, the interiors, started with Utzon moving his entire office to Sydney in February 1963. However, there was a change of government in 1965, and the new Robert Askin government declared the project under the jurisdiction of the Ministry of Public Works. Due to the Ministry's criticism of the project's costs and time, along with their impression of Utzon's designs being impractical, this ultimately led to his resignation in 1966 (see below).

Fig.10

PARASOL METROPOLIS
The structure consists of six parasols in the form of giant mushrooms ("Las setas" in Spanish), whose design is inspired by the vaults of the Cathedral of Seville and the ficus trees in the nearby Plaza de Cristo de Burgos. Metropol Parasol is organized in four levels. The underground level (Level 0) houses the Antiquarium, where Roman and Moorish remains discovered on site are displayed in a museum. Level 1 (street level) is the Central Market. The roof of Level 1 is the surface of the open-air public plaza, shaded by the wooden parasols above and designed for public events. Levels 2 and 3 are the two stages of the panoramic terraces (including a restaurant), offering one of the best views of the city centre.

Fig.11
CONCLUSION
Nowadays it's very common to use the capability of softwares and to register some ideas throw the cadre of mathematic solvations. It's so often recognized that the algorithmic and computational masses are so easier to solve rather than with ancient design methods. With new digital abilities new forms are designed and took out of the whole body platforms and throw the algorithmic periods go to shape the final result. The basic advantage of this method is its precasting ability that gives us several choices and for each one an amount of answers. The form and shapes in traditional design methods were defined with just one unique result but the result in modern digitalized design process is vary depending on basic informations. Gathering the form and the information in which shapes the form in this type of design process is one of the most important advantages of its own. So that, here is the family of forms that is important and typology and morphology are rising to answer as many as questions they can. So with this site of view it could be possible to create a new strategy and pathway throw the design process and also the fabricating and prebuilding types of new era.

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THE ROLE OF NEIGHBORHOOD IDENTITY IN CREATING THE SENSE OF ATTACHMENT TO THE PLACE IN THE RESIDENTS OF THE TRADITIONAL RESIDENTIAL FABRIC OF TEHRAN (A CASE STUDY ON FIVE MUNICIPAL DISTRICTS OF TEHRAN)

Saeid Azemati
PhD student in Department of Architecture and Urbanization in Isfahan University of Art

Mansour Mansoury
Department of urban design, naein branch,Islamic Azad University,naein,iran

Seyed Saleh Sokni Dehkordi
Department of Architecture, Naein Branch, Islamic Azad University, Naein, Iran

Ramin Mordavan
Department of Architecture, Naein Branch, Islamic Azad University, Naein, Iran

Mojgan Maghsodi
Department of Architecture, Naein Branch, Islamic Azad University, Naein, Iran

ABSTRACT
In the modern society, it is necessary to consider the neighborhood identity which plays a critical role in socialization and human-orientation of the urban structure. The social events in residential regions of cities which are known as the urban living cells are very determinant in residents’ liveliness. Therefore, the current research studies the neighborhood identity and the sense of attachment in urban residents. This research is a survey study, during which required data were collected using a questionnaire and an interview. After data had been collected and encoded, they were analyzed with statistical softwares. The statistical population of this study includes five municipal districts of Tehran (i.e. Tajrish, Navvab, Moniriyeh, Rahahan and Bahar). Sample size was calculated using the Cochran formula. Thus, 300 people were determined as the statistical population. According to the findings of this study, the age of people is an effective factor on their attachment to their neighborhood identity. Furthermore, those people who are more satisfied with their neighborhood have a stronger attachment to their neighborhood identity and as a result, these neighborhoods are essentially safer. The native inhabitants, compared to the non-natives, have a stronger attachment to the neighborhood identity. Those who have a stronger sense of attachment to the place participate more actively in the activities related to their neighborhood. Residents’ attachment to the neighborhood increases by the increase in the safety of the residential areas. Besides, the satisfaction of the urban performance affects on the attachment to the neighborhood identity. This will be effective on the increase in social interactions and liveliness of these neighborhoods.

Keywords: identity, neighborhood, safety, the sense of attachment to the place, social interactions

INTRODUCTION
Concurrent with the changes in urban development projects related to the traditional residential fabrics, these parts of cities have attracted the planners’ attention due to having the proper factors of identity and social liveliness. Lynch believes that a neighborhood is a wide area which can be identified according to some common and specific features and the person mentally feels entering it (Chapman, 1384 quoted by Azizi, 1385:44). According to these claims, studying the dimensions of the lack of the sense of attachment and identity leads in weakening the concepts depth, attachment and the diversity of the spatial experiences. Place other than the physical dimension, has also the spiritual dimension and creates some kind of feelings in its residents. These feelings bring a kind of attachment to the place in a person which leads in shaping the place identity which is basically considered for urban neighborhoods by the postmodern planners (Rahnama and Razavi, 1391:22). From the distant
past, the residential neighborhoods of the cities as the urban living cells have played an important role in their inhabitants’ lives (Ghasemi and Negini, 1389:31).

This research aims at studying different dimensions of the neighborhood identity and analyzing it in five specified neighborhoods of Tehran, Iran. In the globalized life of the modern world, one of the most important questions is related to determining an identity and a sense of attachment to a place or a specific neighborhood. The possibility of creating an identity for different places in the city, especially neighborhoods, is among the significant topics in modern sociology and urban planning. However, it seems that more important issue is the lack of knowledge of individual and collective needs. The matter of gaining knowledge is less noticed in those urban fabrics and spaces in which the design takes place. Thus, the lack of comprehensive and cognitive researches is felt in the studies with the purpose of identification. Therefore, the purpose of the current study is to investigate the neighborhood identity and the sense of attachment to the neighborhood in the residents of Tehran neighborhoods.

Hence, it is assumed that those who are satisfied with their neighborhood have a stronger sense of attachment to their neighborhood identity. Therefore, there is a meaningful relationship between the sense of security and the sense of attachment to the neighborhood. This is an analytical exploratory research and was conducted as a survey research during which the required data were collected through using a questionnaire and an interview. After data had been collected and encoded, they were analyzed with statistical softwares.

**THEORETICAL FRAMEWORK**

Different identities of human beings are considered as the social structures – those meanings and expectations which are defined interactively and culturally- and as some aspects of the formation of themselves and of those structures that show the identity of a person or of a society of people (moren,1391:62).

Places are composed of three dimensions including physical, activity and meaning dimensions. The meaning is associated with the psychological and social aspects of the person which form his imagination. (steadman, 2002) The cultural features are also integrated with the person’s emotional imagination and his functional needs and affect on the place identity.

(Rose,1995) divides the theories by the geographers, sociologist and anthropologists into three categories. The first group includes those who consider the sense of place as something natural. These scholars believe that it is one of essential human’s needs to have a place to which he has a sense of attachment. This need is sometimes called territorial instinct. The second group includes those who associate the human’s sense of place to the substructures of power. These scholars believe that it is the ability of thinking and rethinking that makes the human different from other creatures. They claim that the sense of attachment to a place or to a neighborhood means the active role of human in making his life. This kind of explanation can be called the cultural explanation of the sense of attachment to a place. Thus, from this point of view the sense of attachment to a place can be considered as the human’s cultural interpretation of his surrounding world. The third group knows the sense of attachment to a place as a part of identity policy. These scholars focus on the relationship between power and place and analyze the relationship structures between these two. They analyze those structures of the power that bring a special meaning out of minds. The sense of attachment to a place was first operationalized by and (Mc Milan,1986). They introduced a theoretical model for the sense of place which is consists of four parts including membership, influence, unity and meeting the needs, and the common emotional connections. Membership refers to the sense of attachment to a group and is consisted of four parts including emotional security which means the membership criteria prepare a kind of security to protect the group. Attachment and creating an identity include those senses, expectations and beliefs that a person has about his peaceful life in that group and his living place. Individuals’ investments is each person’s share in building a place and shows the way people affect on each other. Unity and meeting the needs mean that group associations promise a kind of reward for their members. The common emotional connections, based on the common identification of the members, are according to the common past experiences.
The attachment to a place is the development of the principal connections or relationships between the people and special places (Hernandez, 2001). According to Pakzad, that part of each person’s personality that creates his personal identity is a place by which that person knows himself and introduces himself to others. He believes that when a person thinks of himself, he finds himself attached to a place where he is living in and he knows that place as a part of himself (Ghasemi and Negini, 1388). The attachment of the inhabitants of a neighborhood to their living place, a memory of the neighborhood which has remained in the inhabitants’ minds and the collective memories of the inhabitants are the important elements of the neighborhood identity (Ghasemi and Negini, 1388, Vahida and Negini, 1391).

Table 1- Summary of the Theoretical Framework

<table>
<thead>
<tr>
<th>Theory</th>
<th>Topic</th>
<th>Theorist</th>
</tr>
</thead>
<tbody>
<tr>
<td>The identity can be divided into three types: social identity (role identity), situational identity, personal identity</td>
<td>identity</td>
<td>Voriyan (2007)</td>
</tr>
<tr>
<td>Places are consisted of three dimensions: physical, activity and meaning</td>
<td>place</td>
<td>Montogemery (1998)</td>
</tr>
<tr>
<td>The attachment to a place is the development of the principal connections or relationships between the people and special places</td>
<td>Neighborhood identity</td>
<td>Hernandez (2001)</td>
</tr>
<tr>
<td>He offers three groups of theories of the sense of attachment to place: the first group believes that it is a natural sense; the second group considers it as a cultural issue and the third group relates it to the power structure</td>
<td>The sense of attachment to a place</td>
<td>Rose (1995)</td>
</tr>
<tr>
<td>They offered a theoretical model for the sense of place which consists of four parts: membership, influence, unity and meeting the needs, and common emotional relationships</td>
<td>The sense of attachment to a place</td>
<td>McMilan (1986)</td>
</tr>
</tbody>
</table>

Table 2- Dimensions of the Neighborhood Identity (reference: Vahida and Negini, 1391)

<table>
<thead>
<tr>
<th>Reference</th>
<th>Indicators</th>
<th>Dimensions of the Neighborhood Identity</th>
</tr>
</thead>
</table>
Table 1- The levels of formation of the sense of attachment to the neighborhood

| Rafi zadeh (2000) | places and collaborative activities in the neighborhood are maintained and strengthened 3. inhabitants’ relationship with the cultural, religious and recreational spaces available in the neighborhood 4. the existence of strong connections in the neighborhood |

Figure 1- the levels of formation of the sense of attachment to the neighborhood (reference: Pirbabaii and Sajjadzade, 1390)

Simon (1988) conducted a survey study with a sample of 10905 people, in Britain, and studied the personal and social factors of the attachment to the place and to the neighborhood in two levels. According to his findings some factors such as number of meetings, density and duration of meetings are important in the people’s attachment to the place. Park, Sanchez prove that the inhabitants of deprived areas, due to having restricted options to chose, have to go back into the specific limitations and like this their social identity is created and organized. This situation can also provide common benefits and strengthen the person’s sociability (Amirkafi, 1383).

Smith (2011) claims that besides physical factors such as parks and personal factors such as the house ownership and the duration of residence in the neighborhood, the attachment to the neighborhood and social support are the effective factors on the satisfaction with the residence of the inhabitants of urban neighborhoods. According to him, the neighborhood sense, the sense of attachment to friends and family and people’s senses about the place they live in affect on the satisfaction.

Mellor et al. (2008) showed that the sense of attachment to the neighborhood will lead in the creation of the neighborhood identity and therefore, inhabitants’ satisfaction of the neighborhood increases (Yang et al., 2004). The sense of attachment to the neighborhood strengthens the interconnection between the neighborhood and the human (Gilliro et al., 2010). This interconnection is the one between the person and the physical and social situation (Gilliro et al., 2010, Menarini and Fadi, 2009). Those interactions which are the result of the sense of attachment to the neighborhood increase the idea of neighborhood quality and this also can increase inhabitants’ satisfaction (James et al., 2009).

**PSYCHOLOGY METHODOLOGY**

This is an analytical exploratory research and was conducted as a survey research during which the required data were collected through using a questionnaire and an interview. After data had been collected and encoded, they were analyzed with statistical softwares.
STATISTICAL POPULATION
The statistical population of this study includes five municipal districts of Tehran (i.e. Tajrish, Navvab, Moniriyeh, Rahahan and Bahar).

STATISTICAL SAMPLE
Sample size was calculated using the Cochran formula. Thus, 300 people were determined as the statistical population.

SAMPLING METHOD
Sampling method is the random cluster sampling. Thus, city was divided into several districts and a few blocks and then some houses in those blocks were selected. The questioner offered the questionnaire to each of selected houses.

SAMPLING TOOLS
The most appropriate sampling tool in the survey study is the questionnaire. Thus, in the current study the data collection tool is the questionnaire.

DATA ANALYSIS
DESCRIPTIVE DATA
According to results obtained from the age variable, 144 answerers (48 percent) had ages less than 20 years old, 54 answerers (18 percent) were in the age rate between 20 to 30 years old, 53 answerers (17.8 percent) were in the age rate between 30 to 40 years old and 48 answerers (16 percent) had ages more than 40 years old. The highest frequency was observed for the ages less than 20 years old. The results related to the sex variable show that 109 answerers (36.3 percent) were male and 191 answerers (63.7 percent) were female. Thus, female answerers have the highest frequency. The results related to the answerers ethnicity show that 92.7 percent were Turk, 3 percent were Kurd and 4.3 percent were Fars. According to the results obtained from the answerers’ residence duration variable, 54 answerers (18 percent) are living in the studied areas less than 10 years, 45 answerers (15 percent) between 10 to 30 years and 192 answerers (67 percent) more than 30 years. The results related to the ownership state of the house showed that 191 answerers (63.7 percent) are the owner of the houses they are living in and 109 answerers (36.3 percent) live in rental houses. According to the results associated with the answerers’ birth places, 201 answerers (67 percent) were born in cities and 99 answerers (33 percent) were born in villages.

ANALYTICAL FINDINGS
In the current study ANOVA tests, T-test and the Pearson correlation coefficient are used. The results of these analyses are presented in Table 1. These results show that there is a positive and meaningful relationship between the main variables (age, sex, ethnicity, residence duration, satisfaction of the residence, birth place, participation in neighborhood activities, the sense of security, satisfaction of the municipal performance) and the dependant variable (neighborhood identity).

Table 3- the results of the analytical findings and of the tests on the study hypotheses

<table>
<thead>
<tr>
<th>Confirmati on or rejection of the hypothesis</th>
<th>Significance level</th>
<th>Test value</th>
<th>Test type</th>
<th>Dependant variable</th>
<th>Independe nt variable</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>confirmed</td>
<td>0.000</td>
<td>R=0.206</td>
<td>Pearson correlatio n coefficien t</td>
<td>The attachment to the neighborhood identity</td>
<td>age</td>
<td>There is a significant relationship between the age and the attachment to the neighborhood identity.</td>
</tr>
<tr>
<td>confirmed</td>
<td>0.000</td>
<td>T=0.714</td>
<td>T-test</td>
<td>The attachment</td>
<td>sex</td>
<td>There is a significant relationship between the age and the attachment to the neighborhood identity.</td>
</tr>
</tbody>
</table>

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Copyright © The Turkish Online Journal of Design, Art and Communication
| Rejected 0.9 | F= 0.52 ANOVA | The attachment to the neighborhood identity | There is a significant relationship between the ethnicity and the attachment to the neighborhood identity |
| confirmed 0.000 | F= 68.03 ANOVA | The attachment to the neighborhood identity | The birth place | There is a significant relationship between the birth place and the attachment to the neighborhood identity |
| confirmed 0.000 | R=0.53 Pearson correlation coefficient | The attachment to the neighborhood identity | Residence duration | There is a significant relationship between the residence duration and the attachment to the neighborhood identity |
| confirmed 0.000 | R=0.43 Pearson correlation coefficient | The attachment to the neighborhood identity | The satisfaction of the residence | There is a significant relationship between the satisfaction of the residence and the attachment to the neighborhood identity |
| confirmed 0.000 | F=8.02 ANOVA | The attachment to the neighborhood identity | Participation in neighborhood activities | There is a significant relationship between the participation in neighborhood activities and the attachment to the neighborhood identity |
| confirmed 0.000 | R=2.77 Pearson correlation coefficient | The attachment to the neighborhood identity | The sense of security | There is a significant relationship between the sense of security and the attachment to the neighborhood identity |
| confirmed 0.000 | R=0.27 Pearson correlation coefficient | The attachment to the neighborhood identity | The satisfaction of municipal performance | There is a significant relationship between the satisfaction of municipal performance and the attachment to the neighborhood identity |

**CONCLUSION**

The results obtained from testing the study hypotheses show that the resulted significance level of the age and the neighborhood identity (0.00) indicates that the attachment to the neighborhood identity differs for different people with different ages. Older people have stronger attachment to the neighborhood identity. The same value for the sex and the neighborhood identity implies that the attachment of people to their neighborhood identity is different considering their sexes. Men are more attached to their neighborhood identity compared to women. The significance level of ethnicity and
the neighborhood identity shows that the attachment to the neighborhood does not change significantly for different ethnicities. There is a significant relationship between the birth place and the neighborhood identity. This means that those who were born in cities have a stronger attachment to the neighborhood identity. There is a significant relationship (0.000) between the residence duration and neighborhood identity. Longer the residence duration in a neighborhood is, stronger the inhabitants’ attachment to the neighborhood identity will be. The relationship between the satisfaction of the residence and the neighborhood identity is also significant. More satisfied are people with their residences, more attached they will be to the neighborhood identity. There is a significant relationship between participation in neighborhood activities and the neighborhood identity. More involved are people in the neighborhood activities such as participation in neighborhood sport groups, participation in neighborhood councils, participation in celebrities and religious mourning, more attached they will be to the neighborhood identity. The relationship between the sense of security and the neighborhood identity was significant. The findings imply this fact that greater security in the neighborhood increases the sense of attachment to the neighborhood in inhabitants. There is a significant relationship between the satisfaction of the municipal performance and the neighborhood identity. Better performance of the municipal in the neighborhoods will lead in deeper inhabitants’ satisfaction and the sense of attachment to the neighborhood will thus increase. Based on the findings of this study, following items are suggested in order to fulfill the aims:

1- Establishing local institutions and centers such as the neighborhood house, the neighborhood health care center and etc. in order to improve the cultural identity of the neighborhood inhabitants.

2- Offering methods of improving the capacities of the cultural identity and social attachment in order to promote the life quality of inhabitants.

3- Studying how the interactions between the governmental organizations and people can form the neighborhood identity and neighborhood attachment.

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UNDERSTANDING GENETIC ALGORITHMS IN ARCHITECTURE

Mohammad Latifi
Department Of Art And Architecture, Tehran Science And Research Branch, Islamic Azad University, Tehran, Iran

Mohammad Javad Mahdavinezhad
Department Of Architecture, Tarbiyat Modares University, Tehran, Iran

Darab Diba
Department Of Architecture And Urban Planning, Central Tehran Branch, Islamic Azad University, Tehran, Iran

ABSTRACT
Genetic algorithms (GAs) are computational techniques based upon evolution. They have been recently introduced in architecture to study present complexities in form and function. Despite growing trends and inclinations to use GAs, there is not an organized study and instruction about its usage in architecture.

This library research, while examining the structure of GAs, seeks answers to these questions:
1. What is the necessity of GAs in architecture today?
2. Are GAs used to meet special needs of architecture or are they merely complex forms?
3. How can GAs come to our assistance in design? And last but not least 4. Does GAs serve reality or unreal abstract forms of an imaginative world?!

To answer these questions, the present research studies GAs in architecture and other disciplines. It also investigates their functions in architecture and finally explains introductory parametric operations in this field.

Keywords: Genetic Algorithm, Genetic Operators, Parametric Architecture, Optimization

INTRODUCTION
Since the 1990s, there was a change in approach leading architects, so that, evolutionary biology technologies have been used to investigate or to depict the complexities of modern architecture. Since the amount of information and level of complexity in most construction projects, are larger than the ability of designers to understand and predict them in a way that traditional methods of design, we can not solve, this complexity at the right time in the midst other evolutionary and dynamic techniques, genetic algorithms, have been used, as a means of optimizing the architecture.

Genetic algorithm used in the first step in resolving structural problems, such as structural and facility structure, and in the next step, it is used as the probability of random solutions to solve optimization problems and research issues. Genetic algorithms are used as new and unexpected conceptual areas in order to create a symbol and innovative solutions in the form of processes, new structures can be created with a lot of complexity to it.

GENETIC ALGORITHMS
GA, inspired Darwin's theory of evolution and genetics, and it is based on superior survival or natural selection. A common use of genetic algorithms is used as a function optimization. Also, genetic algorithms are useful tools in pattern recognition, feature selection, image understanding, optimization, evolution, automated programming, machine learning, and teaching behavior of the robot and so on. [1]

Although the work was done by a biologist named Fraser, in the field of modeling evolution in biological systems in the late '60s, but genetic algorithms, for engineering applications, and for today, was first proposed by John Henry Holland, scientist Computer University of Michigan in 1975. His
work is the beginning of all efforts to use genetic algorithms in engineering. After that, the work of Kenneth A De Jong, in 1975, provided the intellectual foundation for discussion, evaluate and compare several genetic algorithms. [2] The algorithm, inspired by nature is based on the principle of Survival of the fittest. [3] Although genetic algorithm was proposed after the algorithm evolutionary strategy, but it is, the most famous of evolutionary algorithms. In a genetic algorithm, a population of individuals, they will survive in the environment according to their desirability. Those with superior capabilities will find greater the chance of marriage and reproduction. So, after a few generations, children with better performance are produced. In the genetic algorithm, each individual of the population is introduced into a chromosome. Chromosomes are more fully over several generations. In each generation, the chromosomes are evaluated, and they are enabled to survive and reproduce, according to its value. In terms of next generation genetic algorithm, takes place by the contact and mutation operators. Top of parents is elected on the basis of a fitness function [4]

Features and limitations of genetic algorithms

Genetic algorithms have properties that make it different and superior compared to other optimization algorithms, which refer to some of the most important ones, are as follows:

A) Genetic algorithms can make use of encrypted variables, ie chromosomes, instead of using the variable. As a result, it does not need to define the problem mathematically. So we can guess that, this algorithm can find answers to a wide range of issues.

B) Genetic algorithm applies the same time, a large number of parts to the space. This feature reduces the likelihood of being caught in the local optimum algorithm to a large extent.

C) Genetic algorithm does not guarantee convergence to local optimum, but most of the points have been optimized and converged accept.

D) This algorithm is used simply to replying the questions that a large number of variables.

E) The genetic algorithm is simple, and does not need the auxiliary information such as derivatives of the objective function. As a result, too complex for optimization of an objective function, batch or, systems that do not define specific material or direct actions by simulating the real system parameters are tested, very convenient.

As an alternative to genetic algorithm at the end of a call, a set of responses to provide optimal, this feature is important in multi-objective optimization problems.

However, their biggest constraint is how to write functional fitness (Fitness) which leads to the best solution to the problem. If this function fit, well and strong is not selected may be a solution to that problem is not found, or the wrong problem to be solved. [5]

In short, genetic algorithm is a programming technique, which uses genetic evolution as a problem-solving model. Entry is a problem that must be solved, and solutions are based on a template coding, the fitness function is called. Evaluates each candidate solution, most of which are randomly selected. They remain appropriate, and excluded the rest. The best people are together to mate (removable DNA elements) and go towards development. [6]

**GENETIC OPERATORS**

Genetic algorithms for solving problems (reproduction) follow three basic rules (operator) selection, integration and mutation (Figure 1).
Selection: The selection stage, a pair of chromosomes is selected to be combined to produce the next generation. In other words, the operator interface is between two generations and some members of the current generation are transmitted to the next generation. In electing the members of the compliance criteria and graceful them, but the selection process is random mode. Some roulette wheel selection procedures, are chosen sequence, select the Boltzmann constant mode, and so on.

Crossover: In nature, survival of generations, one of the most important factors and the only possible operator for this compilation is. Intercourse by switching genes between two chromosomes is done, and each of their chromosomes to offspring characteristics of next-generation transfer. This step is a process in which the older generation of chromosomes, mixed and combined, can bring up a new generation of chromosomes. The operator of genetic algorithms, function composition. Pairs who select as a parent are considered, in this field to exchange genes, and create new members. The most common methods are combined displacement binary, true displacement, combined single-point, two-point combination, combining and so on. (Table 1)

\[
\begin{array}{|c|c|c|}
\hline
\text{Combination operator} & \text{Parent chromosome string 1 (001000111)} & \text{Parent chromosome string 2 (010101001)} & \text{Child chromosome Strings} \\
\hline
\text{one point Crossover} & 00100/0111 & 01010/1001 & 001001001 \\
& & & \text{And 010100111} \\
\hline
\text{Two point Crossover} & 0010/001/11 & 0101/010/01 & 001001011 \\
& & & \text{And 010100101} \\
\hline
\text{Multi-Point Crossover} & 001/00/01/11 & 010/10/10/01 & 001100101 \\
& & & \text{And 010001011} \\
\hline
\end{array}
\]

Table 1: Some combine methods

Mutation: a random change on people creates and produces new people in the population. The operator of a gene from a chromosome randomly (from a uniform distribution a bit random) selection and then alters gene content. If the gene is made of binary numbers, it's the inverse transform and if you belong to one or another element of its set value is set to replace the gene. Mutation operator to create a child uses only one parent; that would occur with small changes in the initial string. Mutation, makes searching the problem space intact, it is the main task of avoiding the convergence to local optimum mutation. [7] (Table 2)

\[
\begin{array}{|c|c|c|}
\hline
\text{Combination operator} & \text{Parent chromosome string 1 (001000111)} & \text{Parent chromosome string 2 (010101001)} & \text{Child chromosome Strings} \\
\hline
\end{array}
\]

Table 2: mutation
STOPPING CRITERION
Repeat operations until stop conditions continue to be met, and it is when a fixed number of generations, we dedicated budget or time runs out, a person (child produced) find the minimum (lowest), meet the criteria, fitting most of the children achieved better results not achieved or achieved one of the compounds mentioned above. [8] (Diagram 2)

Diagram 2: The process of genetic algorithms performance, writer

Figure 1: the Bird's Nest Stadium
http://afg-eng.blogfa.com/post/52

Genetic computation, propose effective solutions for optimization problems and problem-solving issues through research, which applies to the population problem. Genetic algorithms, architectures are used in two ways: one as an optimizer tool, and the other as a production tool maker.

In the first method, the structural properties of genetic algorithms to problems such as structural performance, mechanical, thermal and lighting is concerned; that communication is more architectural and other building professionals. In the second method is under the new concept and fantastic, freedom in concept and form architecture. The design is based on the design parameters into the
discussion. In the meantime, designers began the creation of free forms a complex with the building blocks is not easily understood by traditional methods. That's why; in this era of algorithms and programming codes that propels the science of architecture.

Unlike the conventional method of drawing volumes, modeling of the generation algorithm, is based on numbers, geometry and calculus based. Even if you begin high-volume design freedom, it must be connected volume initially specified parameters. The resulting routes, which are all linked and determined by changing parameters, the path has changed and volume calculations obtained is produced. [10]

**ALGORITHMIC DESIGN (PARAMETRIC- AMOUNT)**

If architecture is seen as a volume in space, the geometry and mathematics is dramatically visible in its design. Architectural history, every time the form has been associated with the geometry. Islamic architecture and decoration of buildings are examples, which show that architecture has a strong relationship with geometry and math. Islamic architecture and decoration of buildings are examples, which show that architecture has a strong relationship with geometry and math. In recent times, due to the detachment of architecture and engineering fields this relationship weakened, but in the early 21st century, more and more influential in the field of computer architecture, and helping to create new forms by the instrument, as well as the architecture of computer science Software found. By defining form as defined steps, called the so-called algorithms, new forms have gone back to the more scientific. This is a good thing, has led to a stronger relationship between the design and mathematical form. The combined fields of computational geometry (Computational Geometry) based on mathematical and computer programming, has led to the emergence of new intriguing topic generating algorithms (Generative Algorithm) geometry. The three-dimensional software, designers have the ability to have thought of almost any size can be drawn, but it is generating algorithms based design parameters has entered the field of design. In the meantime, designers to evaluate different volumes of Euclidean geometry began to design complex free-form curves and surfaces based on the release, which virtually are the building blocks of a process that is not easily understood by traditional methods to this. (Figure 2)

In general it can be said at this time, the power of algorithms and programming codes that propels the science of architecture. As a result, designers prefer to override the existing arena and beyond the usual volumes, with tools like algorithms generating fractal (Fractals), cellular automata (Cellular Automata), diagram (Voronoï), Linden Meyer System (L-System), triangulation (Triangulation), Premier formula (Super formula), and other specific algorithms. The horizon and the future move along with the diversity and creativity of the architect who dreams into reality are. [11]

![Figure 2: a diagram of Voronoi (divided space)](http://matsysdesign.com/tag/voronoi)
Unlike the usual method of drawing volumes, with volume modeling algorithms based Productive numbers, geometry and calculations are based, even if the volume of design freedom begins, the volume must first be connected to the specified parameters. The result is that the routes are all linked and determined by changing parameters, the path has changed and volume calculations obtained is produced. (Figure 3)

Figure 3: Urban Design Istanbul Turkey Kartal Pendik

It is also necessary to note, that uses algorithmic methods to reduce the gross production volume differences between related disciplines such as architecture, engineering, energy, infrastructure, urban development and will be making arena. Software such as "Grasshopper" could well fill the gap between the design and construction as well. Science-based Code-low (CAD / CAM) are trying to make a connection between the building industry and architectural design, which is certainly "Grasshopper" is a tool that is able to make this connection as well. [11]

CAPABILITIES OF PARAMETRIC ARCHITECTURE AND DESIGN PROCESS
Patrick Schumacher, with a strong emphasis on the proposition that the convergence process approached those Parameter styles, such as a historical appreciation continues, noting: "Parameter the fundamental rethinking and constitute basic elements of architecture... Can not be the only one spectra or ethnic studied architecture, it should not even be described as experimental. Parameter, both in terms of architectural is solutions and the impact on the environment from the perspective of one of the largest and most important orientations and movements within the architectural discourse".

Patrick Schumacher, stresses that the combination Parameter and digital design: "You can also use digital tools in traditional architecture, Parameter, the only direction is valid and reliable, the use of computer tools in new opportunities beyond the borders of all historical experience such as minimalism and develops high-tech. " [12]

In all, some of the capacities that provide parametric design or some of the architectural design process include:

possibility to create: Accounting and given the uncertain forms, is one of the most important problems that are among the preliminary design, final design and the architecture is, who are drawing the sketch because often in this sketch of free forms are drawn, are non renewal, because they do not follow the specified program. Efficient and diversified use of mathematical diagrams, the ability to provide, the distance between the initial and final design is reduced to a minimum. Easily applicable (Figure 4)
In conventional methods, designers are trying their feelings at the center of decision-making in the first place. So they invent new ideas to do outside of logical system of thought. This means that, architecture is always in the first stage of logical principles, and secondly, to be unaware of creativity and innovation. Another problem lies in the way of sensible ideas, is the possibility Reload manufacturer, meaning that, until the full embodiment, the architect can not come close to the ultimate goal, and if the project was conceived in the mind of the architect, making changes in it drastically reduced; in other words from irreversible, arises between logical thinking and artistic creativity.

Using mathematical ideas, the architects allows, always assured of the possibility of building their own creative ideas. Being repeatable mathematical graphs and the possibility of interference is constructive in the final product of options, it is easily solved, and this leads to more dynamism to the design process. On the one hand, the possibility of PCR amplification and sequencing, which is widely seen in mathematical diagrams, a rare approach, in order to create the possibility of building innovative and creative ideas to the architecture. (Figure 5)

Compatibility form and structure: the boom of computer software, in architectural design, a new problem has developed in the field of architectural design. The computer software has caused to draw free curves, curves designed many are not manufactured in practice, or if they are built, there is no justification for making them economically. Such forms can be seen in many architectural competitions, which design is intended only visual proportions, and not a trace of concepts and mathematical proportions in them. Using defined mathematical principles, or general principles of modern mathematics could be a major step forward in improving this costly problem, be considered. Forms and mathematical proportions, is undeniably incompatible with the principles governing the
design, construction and calculation of structures, inside. Lines, and curves load distribution, often with the help of famous mathematical functions are calculated. In cases where there are complexities basis, may be slightly hesitant to parse them into simpler formulas. Producer familiar with these concepts, instruments, is grappling with the problem that most architects. Using diagrams, and mathematical we proportion of the architecture that rare opportunity, at least subconsciously give reasonable answers to these questions. Forms, to help basic math concepts sketchy, often providing quality transmission structure is meaningfully guide. Architecture that takes advantage of this technique, in fact the management structure designed to coincide with the architectural design. [13] (Fig. 6)

Figure 6: City of Dreams in Macau Tower Hotel


• Planning Optimization: Optimization refers to the process of improving anything. A designer creates new ideas and optimizes quality gives to the idea. [14]

In 1979, Judith Butler, Stefan M. Wild and Robert L. Phillips, provided the following definition of selectivity:

In many aspects of life, is not the best criterion for judgment, but it is progress towards best practice standards. Optimization, optimal point or points on your search, this definition has two parts: (1) progress and reform (2) optimal point. There is a distinct difference between process improvement and self-improvement concept.

Still considered important to converge on the study of optimized processes, (whether this is the best answer?), But the convergence towards the main issue is not the life more movements and only do things better than others is concerned. The main aim of the selectivity improvements to achieve optimum point is pervasive.

Genetic algorithm optimization considers every question, as a matter of evolution. This algorithm to find the optimal parameters, a set of possible values for them to randomly chosen as an initial population, then the process of evolution on this population, little by little they modify, which is the optimum value reach. Optimization theory how to obtain the best investigated. For this purpose, should be measured and how to recognize the difference between favorable and unfavorable. Optimization theory is to determine optimal locations and methods for finding it. [15]

Design optimization was introduced as a tool to achieve the best performance possible construction, highest reliability at the lowest cost, to the construction industry. Performance of buildings includes structural features, acoustics, lighting, energy and space in a building. For example, one of the main objectives of structural optimization is to minimize the total weight or materials cost reduction. With increasing global market demand for high-quality and modern buildings, the use of genetic algorithms to optimize one of the numerous techniques, is necessary. Especially for large structures, with thousands of hand calculations geometric element or structure can not meet the growing demand of
the market. Therefore, the use of optimization techniques is inevitable. For example, in a project Aquatics Centre Olympic Games 2008 in Beijing, China, finding new ways to automatically select the size and Czech code 25000 pieces of steel were required to design them to possible project roof structure.

Most optimization problems, is caused by three main components: the first component of the objective function (objective function), which we're looking to increase or decrease the second component of the design of a set of variables, the value of the actual function (objective function) to affects and set a series of restrictions provides a possible design variables to achieve the eigenvalues of the third component.

For example, the structural performance of a panel, we determine what we want to increase or decrease (eg pressure on a specific area), then the variables that determine the geometry or materials forming the panel are, and then determine the limits of our which will minimize panel weight. [9]

**GA: NECESSITY OR ORIENTATION**

Increasing human needs and lifestyle today requires sophisticated application requirements and more creational forms which has been reinforced and the increasing complexity of manifestations and expressions of the form. The complexity and amount of information that is offered, one of the major problems is that the architecture is grappling with today. Today's problems can not be solved with traditional design methods. Also, limitations and bottlenecks of the problem, they understand and predict design performance has surpassed solutions. Taking into account the genetic algorithm as a tool to respond to the specific needs of the application architecture, not a mere experimental design, and the result is the idea of the necessity of the use of genetic algorithms and arise.

Since the design process is made up of many components, so they should not be overlooked, and thus should be focusing on symbols form. But since that form in architecture is a cultural tool, to visualize abstract concepts a lot depends on definition of evolution is not Darwinian. Architects must make clear that where the architecture is a part of nature, and analogies and metaphors in which they are placed, and where, the nature of inspiration.

Undoubtedly, abstract shapes, a conceptual world are completed in the future, so that it can be manifestations and expressions of a new form. Although the main challenges related to the use of the algorithm in real world situations, architecture, and of course the combination of complexity and limitations of evolutionary design problems with products form, to a design problem, and perhaps that is why the architecture of Genetic Algorithms use, or as a means of building and mechanical problems or to produce form.

In summary, despite the current difficulties, difficulties in encoding architecture, the processing algorithm as preparing the way the human mind to solve problems, be used in the design process. [9] Patrick Schumacher believes, has long been obvious that, the template is pervasive in contemporary architecture. Now, speaking of different versions of it, it must be repeated and efficiently. [16]

What has already described the importance and necessity of resorting to parametric architecture in modern architecture? Now, with the introduction of several architectural importance and necessity of the current trends that are transforming the mainstream architecture, the practical aspect is also taken into consideration. (Figures 7 to 11)
Figure 7: French Pavilion at Expo 2015 Italy

Figure 8: Qatar Pavilion at Expo 2015 Italy
http://www.e-architect.co.uk/milan/qatar-pavilion-expo-2015

Figure 9: Italy Pavilion in Expo 2015 Italy
Figure 10: Gallery consistent architecture in London
http://www.metropolismag.com/Point-of-View/June-2012/Starting-a-Young-Practice

Figure 11: Gallery consistent architecture in London
http://www.dezeen.com/2009/01/21/adaptable-architecture-gallery/

PROBLEM SOLVING PROCESS
In the figure below (Figure 12) a fitting level based on variables A and B are shown.

Figure 12: Level fitted (Z), based on the two genes (parameter) A and B
http://www.grasshoppered.ir
Two variables that level manufacturer, produce, Z by a function. \( Z = f(A, B) \), which in this case is unknown. If the function \( f \) for all parts is known, by mathematical calculations Partial points can be awarded the maximum level, but because of unknown function, the manufacturer level, the objective is to find the maximum level (on the target) is. To solve the problem by evolutionary methods, to each of the parameters defined gene. A gene change may thus function better or worse, as a result of changes in gene a fitting point on the surface is high or low, but for any value A value B also can be modified, and re-fitting parts under the terms of the problem better or worse. For each combination of A and B is a value on the surface fitted, which operates the height (Z) levels. The task of solving the problem of finding is highest point of the surface.

Sure, many of the issues will be defined not by genes but by multiple genes, and in this case, can not be used other than tangible example of the trend. A 12-gene model with a 12-dimensional abstract volume will be fitted in a space next 13! Because genes are one-dimensional and two-dimensional, tangible, followed by the limitations of evolutionary methods will be described. Moreover, it should be noted when the surface is fitted speaking; it may mean something much more complex than the images shown.

Starting problem solver algorithm, is since fitness level is unknown, a number of solutions to stochastic algorithm first on the scope of the problem of distribution. A genome is nothing more than the amounts specified for each of the genes (parameters). In the example above, a DNA can, for example, the value \( \{0.2 = A \text{ and } 0.5 = B\} \). The algorithm then generates a random check their solutions, and the fitted value Calculates.

![Figure 13](image1.png)

**Figure 13** shows an example of a primary distribution evolutionary algorithm

After generating random algorithm solutions, review them, and the terms of the factors are fit. Figure 13 shows an example of a primary distribution evolutionary algorithm.
Figure 13: distribution points by the evolutionary algorithm

http://www.grasshoppered.ir

After the amount of each genome were obtained (the height of the example above) can be produced a list of best to worst solutions checked. Since that is the highest point, it is logical that genomes little more closely to the summit to smaller genomes, so you can remove the worst results obtained, and focus on better solutions.

Figure (14) better choices, according to the first generation of products, are shown.

A figure (14) better choice, according to the first generation of products is shown.

Figure 14: Distribution Points by evolutionary algorithm

http://www.grasshoppered.ir

Leaving the app and use the solutions obtained in the first step of the algorithm is not useful enough because the first generation is randomly generated. The action that takes place at a later stage, the expansion of the genome to produce the next generation will be. When two favorites is together genome and produce a new generation generations will answer in the middle and as a result new solutions will be discussed. Figure (15) the operation is shown.

Figure 15: The points produced by combining two genome favorites

http://www.grasshoppered.ir
At this stage, a new generation is produced, which is not completely random, and begins to approach the maximum three points. Operations, continues to be a repeatable algorithm, eliminating the worst option and the best option to help generation to maximum points, which are practically lead to the solution of the problem. Figure (16) the process of evolutionary algorithm is shown. [17]

![Figure 16](http://www.grasshoppered.ir)

**Figure 16:** achieve maximum points as the solution of the problem by repeating the evolutionary algorithm

http://www.grasshoppered.ir

**ATTRACTOR POINT-ATTRACTOR LINE**

One of the most basic things that must be taken into account in the design of complex materials, according to precious metals is adjacent to the site, which is typical of the height, scattering, concentration etc., can be an effective set design.

In this section, in order to introduce more performance parametric software, outlines an example Rhino software and plug-in Grasshopper adjacent to a water route that passes through the site, and a historical element that will be discussed on the sidelines.

![Figure 17](http://www.grasshoppered.ir)

**Figure 17:** Site hypothetical

Following the issue under consideration, to obtain the optimum height of construction, so that, while proper height, due to the proximity of elements of historical value, depending on the value of the land take maximum advantage of the height. Also, turning buildings into is the important elements both for the aesthetics and the emphasis on them done.
Factors affecting the design parameters, measuring the distance the water and the building with the site, the buildings reach a height of 6 to 18 meters around - in mind, according to Site-sight distance of the important elements affecting the neighboring valuable collection elements, and determine the distance and height of the rotation due to two factors.

What is obtained after the operations software, is as following images, which represents two things: First, do these operations without the help of algorithms and software requires a lot of time because they are perpendicular to obtain all grid points, to HYPOTHETICAL path defined, on the site, and its effect on the above example according to the network 16 × 16 and 96 point considered on the water, requires 96 × 256 operations which will require massive amounts of calculations, the(Figures 17 and 18)

![Figure 18: Elevation of Site](image1)

![Figure 19: Elevation of Site](image2)

CONCLUSION
Genetic algorithms can be directed as a stochastic optimization method, which gradually moves toward the optimal point. About the characteristics of genetic algorithm, when compared with other optimization methods, we must say that algorithm that without having any knowledge of the problem and any limitation on the type of variable it is applicable to any problem, and have established efficiency in finding the optimal a whole. This method is the ability to solve complex problems of classical optimization methods or is not applicable or receivable is not reliable global optimum.

Due to parallel (non-linear) of these types of algorithms and consequently, a large space of solutions, has ability to search in several different problem areas.

One of the problems architects, information management and the increasing complexity involved in many contemporary projects. To deal with this problem recently builders have started using genetic algorithms in design. These algorithms both play a role in the design, production and optimization of novel forms. The first is the emergence of concepts and concept, and the latter as a means of solving the problems of structural, mechanical, thermal, lighting and more efficient.

Genetic algorithms are rapidly replacing traditional design process; and as soon as a need to have a more active role in the future of architecture.

Horizon ahead, show that: the architecture of the "slogans, form follows function", "less is more" and so on, in transition to another world, a world that no longer make any sense superior to another, and together the architecture of placement a set of parameters, in an overall composition, that each concept and form factor will have its own place. Spend a designer and architect of the state will become a strategist designer, one of the most important tasks will be to manage the various parameters.

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THE ROLE OF TIME IN PLACE ATTACHMENT
CASE STUDY: JAVAHERDEH RECREATION AREA OF RAMSAR

Seyedeh Haniyeh Nejati
MA in Architecture
hnejati.design@gmail.com

Mohammad Mahdavi
Associate Professor at Islamic Azad University, Nour Branch

ABSTRACT
Quantitative studies have shown that the duration of the relationship is considered an important variable in the development of place attachment. However, the study of place attachment and the meaning of this attachment do not provide us much information. The present study was conducted to explain the relationship between time and place attachment in two groups including travelers and natives who were presented in Javaherdeh region of Ramsar. The results showed that the duration of the relationship plays an important role in the process that connects people with place and finally, there are different ways in which the time is effective in the formation of meanings in a place.

Keywords: place attachment, time, Javaherdeh region of Ramsar

INTRODUCTION
Different concepts of attachment between people and places are presented and studied. Among the most common are concepts of place attachment and sense of place (SOP). What can be seen in the latest systematic studies regarding the attachment to a place is dealing with the importance of time in a place (that is, the duration of the relationship with a place). Since both authors and researchers (Lu and Altman, 1992; Moore and Graefe, 1994; Ralph, 1976; Tuan, 1977) believed that time and experience in a place are important factors in deepening the meanings and emotional ties needed in relationship between human and space, few depth investigations have studied these factors and their role in shaping this relationship. Therefore, this study attempts to provide a deeper understanding of the impact of "time variable" on the relationship between the visitors and local people at Javaherdeh region of Ramsar.

CONCEPTS OF PLACE ATTACHMENT AND AN OVERVIEW OF THE THEORY OF TIME
Place attachment, which is characterized by emotional ties with a place, generally derived from long-term relationship with a place. This issue different from the View that States that a place is special because of its beauty, which is often a simple aesthetical answer. For example, someone can describe the beauty (or ugliness) in a place, however, this response may sometimes be superficial and short. According to Schroeder (1991), this is a distinction is in which the "meaning" is in front of "trends". He described meaning as "thoughts, emotions, memories, and perceptions arising from the impact of a Landscape", and described the trend as "a tendency to a landscape in comparison with others". For a deeper emotional and sustainable attachment - or according to Schroeder, making sense for the attachment - a lasting relationship with a place is a very important factor. In general, the research describes two basic dimensions of attachment to a place, the place identity and place attachment. Place attachment taken from the framework defined Stokols and Schumacher (1981) and refers to the intensity of the relationship between a person and a place. Attachment to a place emphasizes on the practical aspects of the relationship between a person and a place: Does this attachment meet the practical needs of the person? The duration of relationship with a place and past experiences both are involved in creating and deepening attachment to a place. Stokols and Schumacher (1981) believed that maintaining and repeat are two very important characteristics in the relationship between a person...
and a place. Maintain a relationship refers to duration of the relationship with a place, while the repetition points out to the number of times a person is connected to a place. Thus, the relationship between humans and place has always a "time factor".

At first, the concept of place identity was developed by Proshansky and colleagues (1983) and then was modified by Korpela (1989). In his view, the place identity is the outcome of environmental compatibility in which the emotional attachment is at the heart of place identity. Thus, place identity refers to a more emotional dimension that will deepen over time and be established. Ralph (1976) and you have (1977) discussed the concept of time which are related to a place. The works of Hom (1992) concerning the attachment to social environment showed that long-term stay increases the feeling of attachment. This is achieved through familiarity, past experience, passage of time and native social relations. Studies regarding the recreation areas have shown that the time apparently plays a role in attachment to a place. Moore and Graefe (1994) investigated the attachment and dependence to a place and place identity in a quantitatively manner for the recreational areas. They observed that long relationship, continuous use and further proximity can increase the scales of attachment to a place. They observed differences in the formation of these attachments while taking a longer time to seek a more emotional place identity. Other studies have reported similar relationship between attachment to a place and duration of the relationship with a place.

CHANGE IN MEANING OVER TIME
A handful of studies have separated the importance of a place for a person from the extent of the person's attachment to the desired place and the meaning surrounding it. According to Stedman (2002), attachment to a place (as an intensity scale) is different from the meanings of place by which the attachment can be made. Since the attachment to a place is partially based on the meanings given to a place; according to him, these concepts should be separated. Some researchers have said that the place meanings may be influenced by the duration of the relationship with a place. For example, Kitayama and Markus (1994) believed that the feeling about a place may change over time, while the importance of different attributes in a place will change over time. They argued that newcomers may express that relationship with a region is based on environmental characteristics, while native people form a relationship based on social relations. This hypothesis is partially confirmed in research by Michel and colleagues (1993) about those present at Javaherdeh region of Ramsar. Cantill (1998) and Cantill and Seneca (2000) confirmed this hypothesis in a social environment in the State of Michigan. Interviewee who lived less than 15 years in this social environment, with describing this feeling to a place, discuss about the properties of nature / environment in that area, while residents who lived more than 15 years in the area referred to their social relations. This is reinforced by the findings of numerous studies about the social environment.

RESEARCH GOAL
A number of studies have shown that duration of the relationship with a place plays an important role in the attachment, but this did not evaluated profoundly (Kaltenborn, 1998, Moore and Graefe 1994, Peterson and Williams 1991, Verkin and Rice 2001). In this study, quantitative methods were used to confirm the role of time in the place attachment and qualitative methods were used to describe the basic process in the formation of place attachments and things associated with it.

RESEARCH QUESTIONS
Based on previous research, the key question of this study was that (1) whether people who have a longer relationship with a place (in Javaherdeh of Ramsar and other places) express emotional and social meanings when describing that place? On the other hand, do people who have a short-term relationship consider the physical activities and environments an important matter, when describing their relationships with that place? In other words, does the duration of the relationship with a place is related to the nature of the attachment in a person?

PROCEDURES
AREA OF STUDY
Javaherdeh region of Ramsar is located in the northwest of Mazandaran province. As a recreation center, there are 150 thousand trips per year. Most visits are done in the summer (Dena information network, 2014). This area is a mountainous area and its famous recreations includes hiking, walking and other leisure that are done in an open natural environment. This place has an economy based on tourism revenue.

DATA COLLECTION METHOD
Data collection method was carried out through library and field research. In this case, theoretical and applied research through library research study and data collection related to population were obtained from the study.

STATISTICAL SOCIETY
The population consisted of people visiting the place of Javaherdeh (visitors for the first time and second time visitors) and native inhabitants Jewelry ten Ramsar (relative residents and residents of marriage), respectively. Due to the vast population and limited time, the inductive reasoning was used to identify the statistical population (samples and sampling) (Habibpour et al., 2012). Sampling in this study was done by simple randomization. Cochran formula was used to determine the sample size (Habibpour et al., 2012). In this study, the sample size was calculated as much as 732 persons. There are the most tourists in the months of July, August and September and the questionnaires were distributed among the statistical population during the mentioned period in 2014.

DATA COLLECTION TOOLS
In this study, the two methods of data collection were used: questionnaires and individual interviews. Likert scale was used to measure attitudes. In this research, the content validity was used to determine the validity (Tabibi, 2009) and Cronbach's alpha was used to determine the reliability (Habibpour et al., 2012). In this study, the standardized alpha was calculated 0.879, which indicates that 30 items related to the attachment to a place have high internal reliability. The purpose of the questionnaire is collecting information about the duration of the relationship with Javaherdeh region of Ramsar. The questions focused on repetition and maintaining this relationship: (1) the duration of stay (in hours or days) in Javaherdeh, (2) the number of visits from Javaherdeh and (3) the number of years, the subjects visited Javaherdeh. This study collected information on specific places in Javaherdeh and other places. The visitors were asked to name the top three places in Javaherdeh and their reasons and determine how long they stay in each of the three places. This method was used to achieve deep meanings.

Individual interviews of Javaherdeh visitors (non-native) and permanent residents (native) was performed. The selection was based on key variables associated with place attachment. Random sampling was used to achieve a diverse number of visitors and based on the variables that affect the visitation from this recreation area. 9 separate interviews were done with Javaherdeh visitors during July, August and September 2014 in which 4 interviews were done with couple; in fact, one of each couple interviewed and totally, there were 13 participants. In addition, 29 interviews were conducted with the residents of Javaherdeh between July and August 2014. The key variable related to research is the duration of residence in this city and the number of years of residence amongst the interviewees varied from one and a half years to over 65 years. In total, 38 interview conducted from residents and visitors and 42 people attended. Interviews includes discussions on consequential or special places in Javaherdeh, and then the important and special places in another place. The key objective was to ensure that the interviewees use appropriate words with meanings to describe their relationship with the desired places. Interviews of visitors from Javaherdeh last 20 to 45 minutes (on average about half an hour) and from the residents of Javaherdeh last 30 to 60 minutes.

THE RESULTS OF THE QUESTIONNAIRE
A total of 649 questionnaires were distributed throughout the sampling at Javaherdeh region of Ramsar. Of these, 493 visitors filled out the questionnaires, which comprised a total of 76%. The results of questionnaires and interviews provided and will be described in the following sections. First, differences in characteristics between visitors who have a special place in Javaherdeh and those
who did not have such a place will be studied, whereas this study emphasizes on the duration of the relationship. Then, the differences in the meanings related to the duration of the relationship with a place will be examined. Finally, the results of interviews will be discussed based on the findings of the questionnaires.

**COMPARE PEOPLE WITH SPECIAL PLACES AND PEOPLE WITHOUT ANY SPECIAL PLACE BASED ON THE CHARACTERISTICS OF VISIT**

48% visitors stated that some special places at Javaherdeh were important to them. The results of Table 1 shows that among those who had a special place and people who did not have a specific place, based on visitor characteristics, including repeated visits to people, maintain contact, and stay up and no statistically significant differences were observed. People who reported specific place showed a significant longer-term stay (3.4 days against 2.2 days, the result of t-test was equal to 3.134), they have more visitations to Javaherdeh (9.6 against 2.0 and t-test was equal to 6.352), had a longer relationship with Javaherdeh (16.1 years against 9.7 and t-test was equal to 4.317).

<table>
<thead>
<tr>
<th>Has a special place (Average)</th>
<th>Without special place (average)</th>
<th>t-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of stay (days)</td>
<td>4.3 Day</td>
<td>2.2 Day</td>
</tr>
<tr>
<td>number of visits</td>
<td>6.9 visits</td>
<td>2 Visits</td>
</tr>
<tr>
<td>Duration of familiarity (years)</td>
<td>16.1 years</td>
<td>9.7 years</td>
</tr>
</tbody>
</table>

* The amount of statistical difference, p <.01

** The amount of significant difference, p < .001

**REPEAT, STAY CONNECTED, AND SENSE OF PLACE**
The visitors expressed different meanings for a place and they were listed in Table 2. The most common meanings are: (1) physical environment, (2) outdoor recreational activities, (3) emotional ties, (4) watch the wild, (5) escape from loneliness, (6) social interaction, (7) Leisure, (8) pristine nature of Javaherdeh and (9) habit / spending time.

<table>
<thead>
<tr>
<th>Sense of place</th>
<th>The number of respondents who use the meaning</th>
<th>Percent of respondents with a special place</th>
</tr>
</thead>
<tbody>
<tr>
<td>physical environment</td>
<td>227</td>
<td>73</td>
</tr>
<tr>
<td>outdoor recreational activities</td>
<td>165</td>
<td>53</td>
</tr>
<tr>
<td>emotional ties</td>
<td>95</td>
<td>30</td>
</tr>
<tr>
<td>watch the wild</td>
<td>92</td>
<td>30</td>
</tr>
<tr>
<td>escape from loneliness</td>
<td>85</td>
<td>27</td>
</tr>
<tr>
<td>social interaction</td>
<td>76</td>
<td>24</td>
</tr>
<tr>
<td>Leisure</td>
<td>49</td>
<td>16</td>
</tr>
<tr>
<td>pristine nature</td>
<td>31</td>
<td>10</td>
</tr>
<tr>
<td>habit / spending time</td>
<td>26</td>
<td>8/3</td>
</tr>
<tr>
<td>Accommodations / Food</td>
<td>25</td>
<td>8</td>
</tr>
<tr>
<td>Boost morale</td>
<td>16</td>
<td>5/1</td>
</tr>
<tr>
<td>Culture and history</td>
<td>15</td>
<td>4/8</td>
</tr>
</tbody>
</table>

**DURATION OF RELATIONSHIP AND MEANINGS OF PLACE**
Chi-square test results in Table 3 indicate statistically significant differences between the duration of familiarity for visitors and meanings of place. The visitors who have visited Javahehreha several times, compared with the newcomers, have chosen the following meanings as important factors: Outdoor recreational activities, quiet spot, social attachments, special moments and ceremonies. There is no difference between the meanings of place in the physical environment and emotional connection with visitors of places.

Table 3. Significant differences between frequent visitors and newcomers

<table>
<thead>
<tr>
<th>Sense of place</th>
<th>The percentage of visitors who have visited the place several times and using the sense of place</th>
<th>The percentage of first time visitors and using the sense of place</th>
<th>Chi-square statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical environment</td>
<td>%71</td>
<td>%77</td>
<td>NS</td>
</tr>
<tr>
<td>Outdoor recreational activities</td>
<td>%60</td>
<td>%34</td>
<td>$X^2 = 16/715^*$</td>
</tr>
<tr>
<td>Emotional communication</td>
<td>%32</td>
<td>%27</td>
<td>NS</td>
</tr>
<tr>
<td>Community Relations</td>
<td>%29</td>
<td>%12</td>
<td>$X^2 = 9/521^*$</td>
</tr>
<tr>
<td>Special moments</td>
<td>%19</td>
<td>%7</td>
<td>$X^2 = 6/267^*$</td>
</tr>
<tr>
<td>Quiet spot</td>
<td>%15</td>
<td>%5</td>
<td>$X^2 = 5/832^*$</td>
</tr>
<tr>
<td>Time or customs</td>
<td>%11</td>
<td>%2/4</td>
<td>$X^2 = 5/271^*$</td>
</tr>
</tbody>
</table>

* The amount of significant difference, p <.01

** The amount of significant difference, p <.001

NS: absurdity

THE DIFFERENCES BETWEEN THE MEANINGS OF PLACE AND TIME-RELATED VARIABLES

The results of determining differences between the meanings of place and time-related variables are in Table 4. In connection with the number of visits, the meanings of place that are significantly associated with more visits, were included outdoor recreation and physical environment. Some of the meanings had greater importance in the view of those who visit Javahehreha more frequently, and thus the strongest relationship with the Javahehreha places were: outdoor recreation, social relations, special times, pastime or habit and amenities.

Table 4. The differences between the meanings of place and time-related variables

<table>
<thead>
<tr>
<th>time-related variables</th>
<th>meanings of place</th>
<th>t-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeat</td>
<td>Outdoor recreation</td>
<td>t=2/465*</td>
</tr>
<tr>
<td></td>
<td>Physical environment</td>
<td>t=2/295*</td>
</tr>
<tr>
<td>Maintain contact</td>
<td>Outdoor recreation</td>
<td>t=3/434**</td>
</tr>
<tr>
<td></td>
<td>Social relations</td>
<td>t=3/117**</td>
</tr>
<tr>
<td></td>
<td>special times</td>
<td>t=2/091*</td>
</tr>
<tr>
<td></td>
<td>Pastime or habit</td>
<td>t=2/181*</td>
</tr>
<tr>
<td></td>
<td>Amenities</td>
<td>t=1/984*</td>
</tr>
</tbody>
</table>
QUESTIONNAIRE

These findings only partly confirmed previous research. Because the theory (Cantrill and Senecah 2000, Kitayama and Marcus 1994) and research (Gerson et al., 1977, Hummon, 1992, Lalli, 1992, Taylor et al., 1985) indicate that long relationship with a place can change the basis of attachment from physical aspects to social dimension. In previous investigations, frequent visitors (repetition variable) and those who come there for years (relationship variables), are associated with social relations inside Javaherdeh region of Ramsar. Because the emotional ties do not showed any difference between frequent visitors and newcomers, the frequent visitors probably reported the codes of "special times" and "escape from loneliness", which both of them have emotional characteristics.

Contrary to expectations, there is no difference between frequent visitors and newcomers on the reports related to the physical environment. That is common sense among all the visitors. In addition, those who had more visits (the repetition variable) reported further meanings associated with the environment. Interesting point is that the frequent visitors, more visits, and number of years were associated with more reports about outdoor recreation and it is a meaning that was thought to have a close relationship with the environment. A possible reason for this difference may be the kind of place that was investigated in this study. Most previous studies of this type were conducted based on the social environment, rather than entertainment venues. The physical environment is frequently mentioned by all visitors in that area, because Javaherdeh is a special place regardless of the duration of the relationship with a place. This area is a recreational area with scenic beauty, and is also a place where there is outdoor recreation. So, it's no wonder that most people, because of aesthetic values and recreational opportunities, often tend to travel to this area. These findings show the importance of the type of the site studied and its association with the development of different meanings. This relationship requires further study.

THE RESULTS OF INTERVIEWS AND DISCUSSION

Interviews with local residents

In the analysis of the interviews with the residents of Javaherdeh, any specified important place mentioned that the person has a proper "intensity" in his visits in terms of duration of the relationship with a place. The term "intensity" is the same concept of "experimental records" which was found by the Schreier et al. (1984). Intensity suggests that a person visiting an area several times, and is looking to repeat and maintain contact with a place. When the interviewee refers to a place, the intensity of that place should be changed and be gained a low, medium and high score. For example, examples of low intensity is a person who visited a place five times over 30 years, or twice during the five years, while the examples of high intensity is a person who visited a place 50 times over 25 years or 10 times over two years. Similarly, places outside Javaherdeh region are those that local respondents strongly associated at least in a medium average.

INTERVIEW WITH NON-NATIVE PEOPLE

The interviews with non-native people revealed the role of time in the sense of space. 8 out of 13 respondents describe a special place Javaherdeh, while the other five did not report any specific place. In reviewing the intensity of relationship with Javaherdeh, the intensity among the non-native visitors is much different than the local people. This was expected, because non-native interviewees primarily considers Javaherdeh as a recreational area and so they do not spend a lot of time here, compared with the native people. In terms of intensity associated with Javaherdeh, the intensity of one of eight visitors who had an important place was high, one of them has already a high, but now it has been extremely low; two persons have medium intensity; and 4 persons have a low intensity. And for 5 visitor who did not report an important place, the intensity of the relationship was different: namely, 2 person have high intensity, one person has medium intensity and two persons have low intensity. However, when they were asked to mention an important place outside the Javaherdeh, all but one
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interviewee spoke comfortably about a place, and 4 out of 13 persons described their homes or a place where they lived, while they explained the importance of the home environment. The rest of the interviewees talked about the entertainment places which had visited them several times and it was found that there is a mild connection between them and those places.

TALK ABOUT THE INTERVIEWS AND MEANINGS OF PLACE

Moore and Graefe (1994) thought that the ways in which different types of attachments to place, are formed can be different. Attachment to a place was created apparently too fast, while the identity of the places needs more time. Similarly, other researchers (Cantill and Senecah, 2000, Kitayama and Marcus 1994) thought that the social relationship will be more prominent and important over time; while at first, often associated with physical characteristics that are important. These hypotheses in the results of the analysis of the interviews were confirmed. A distinction created by some of the interviewees was that their feelings have changed about the place by gaining experience and with the passage of time. They pointed out their reasons for their first visit to Javaherdeh or visit the places of Javaherdeh and they said that when they lived in this area or have spent more time there, the area has changed or grown. It seemed that they distinguished between the "orientation" and "meaning." And this difference has focused on one of the two words "attractiveness" in front of "attachment" in the next section.

ATTRACTIVENESS FOR THE ATTACHMENT

Some of the interviewees described how assimilation into specific places or relationship with them in Javaherdeh and outside of it. Many of them have confirmed this relationship with the place. In total, there are differences in the basic meanings and stable attachment. They often say that the beauty of the physical environment was what first drew their attention. However, this attractiveness was entirely different meanings and emotional attachments that were formed in the life and the long attachment leads to emotional and social relations with that place which was more significant. Being in a place, spend time there and gain the experience is very important in terms of emotional and social. These examples confirmed previous research and assumptions which argue that with the passage of time, the relationship between people and place will be more profound and social and emotional aspects can be formed. (Cantrill and Senecah 2000, Kitayama and Marcus 1994, Moore and Graefe 1994).

CONCLUSION

The importance of time in establishing a relationship between people and places in this study was proven. The results of the questionnaires confirmed the past findings and assumptions, which considered the duration of the relationship with a place an important factor in creating attachment to a place. Compared with the newcomers, the persons who had visited Javaherdeh many times, reported a place which was important and meaningful for them. The questionnaire findings also showed that the duration of the relationship with a place affects the meanings of place attachment. About the interviewees, an important difference was that their feelings about a places has changed during the time and because of their experience in that place. This aspect of the relationship between person and place in the research called the "attractiveness" for "attachment". Other researchers (Cantrill and Senecag, 2000, Kitayama and Marcus 1994, Moore and Graefe 1994, Schroeder 1991) argued that this type of meanings be changed over time and believed that a variety of place attachment be created in different forms. Over time, unlike the early stages of a person's relationship with places, more social and emotional relationships with places seem to be more prominent, while physical environments are often very important. According to this interpretation, this framework shows that the relationship between the humans and place has its roots in the constantly changing time scale which provides the critical situation affecting this relationship.

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READOUT THE PRINCIPLES OF COMPACT CITY IN THE NEIGHBORHOODS OF THE IRANIAN CITIES (CASE STUDY: NAZI ABAD NEIGHBORHOOD OF TEHRAN)

Khatereh Ahsani
Master's degree in architecture, Member of Elite and Young Researchers Club, Islamic Azad University of Nour, Iran
Kha.ahsani@gmail.com

Ali Asgharzadeh
PhD in Architecture, Faculty member, Islamic Azad University of Nour, Nour, Iran
ali_asgharzadeh4@yahoo.com

ABSTRACT
City is the manifestation of human culture and civilization. Urban neighborhoods as social spaces play an important role in the lives of citizens. Texture density in neighborhoods, concentration of complex land uses and their proximity to each other are closely associated with sustainable urban forms. Today, with the increase of urban population, we are observing transformation and destruction of urban neighborhoods and a lot of old neighborhoods are being destroyed under the pretext of having timeworn texture and lack of accountability to our urban population. Tehran metropolis is no exception to this. Here we encounter two urban problems: First, uncontrolled urban dispersion and second, a huge amount of buildings which haven't any identification and have formed regardless of their field bed. Compact city is a model of sustainable cities and this is an efficient model to address the phenomenon of urban dispersion. In addition, the model emphasizes the focus on the neighborhood. Nazi Abad neighborhood in Tehran, one of the old quarters of the city that has a compact and outdated texture. In recent years, new buildings are being built in the neighborhood, which were formed regardless of the identity and the dominant pattern in this neighborhood. This had a negative impact on the neighborhood and has tarnished its image. By using descriptive-analytic study as well as field studies on Nazi Abad neighborhood, this paper considers this neighborhood as part of the skeleton of Tehran and aims to solve these urban problems by providing some solutions and identify the patterns in Nazi Abad neighborhood. The contents listed in this article aims to provide key tools for urban planning, urban identity and locations for future designs.

Keywords: compact city, neighborhood-oriented, sustainable, Nazi Abad neighborhood

INTRODUCTION
As a manifestation of human civilization, city is a settlement which was selected by humans for a better and more deserving elements. In fact, the world has gone towards urbanization for centuries (United Nations 2001; United Nations center for (human settlements [1996] 2000). With the passage of time and the creation and development of new technologies, the form of cities has changed. While most manufacturers pay less attention to the importance of urban space and distance due to the consequence of globalization and the spread of communication (cairncross, 2001), other thinkers have pointed to the importance of proximity and economic benefits of urban density. In between these two poles, a problem that is emerging is massive migration to urban areas and rapid population growth, urbanization, suburban dispersion and decentralization in the cities, especially the metropolises. In the second half of the 20th century phenomenon of urban sprawl, with a widespread lack of decentralization appeared in cities and spread outwards. Factors that were a result of urban sprawl,
are: More car ownership, weaker public transport services, walking and cycling and reduce excessive growth in construction and the like as far as the population declined and this state affects quality of urban life, community, environment economic and social dimension (jenks, Burton, Williams.1996). This phenomenon is the result of migration and urbanization, rapid population growth in recent years, most cities are also put at risk. Therefore, presenting Strategies aimed at enhancing the quality of life in cities and neighborhoods is essential. In order to achieve this goal, we need an urban model that focuses on centralization instead of decentralization. As we know, there is a direct relationship between urban form and spatial structure of urban neighborhoods. Therefore, to achieve sustainable urban form, you must first start from urban neighborhoods. Nazi Abad is one of the old neighborhoods with a compact texture and because of its ancient culture, it is known as "the heart of Tehran". In recent years, many old houses and buildings in Nazi Abad have been replaced by new buildings and most of them have no identity. This had an adverse impact on the urban environment in Nazi Abad, regardless of compact patterns, because the traditional context in Nazi Abad had been formed in compact and layered manner. Hence, this paper aims to examine the current situation in Nazi Abad neighborhood and explain them aimed at designing a compact city.

Therefore, this article is aimed to answer the following questions:

What is the concept of a compact city?
What are the compact dimensions in Nazi Abad neighborhood?

RESEARCH METHODOLOGY
These research is descriptive - analytic. Initially, citing the available resources, principles and concepts of urban compact in urban areas were evaluated. Then using field studies and observation and making photos, the compact dimensions in the study area (Nazi Abad neighborhood of Tehran) were studied.

BASIC DEFINITIONS
URBAN SUSTAINABILITY
Urban sustainability is the idea in which a city can be organized in order to be able to adapt to renewable resources it is comfortable to live in terms of economic, social, and environmental and so on. The main objective is to create a place to reduce pollution and optimal use of the land. This includes social justice and quality of life. Economically, this would provide employment opportunities, adequate facilities, saving energy, time, individual and collective costs (Ahnsi, Asgharzadeh: 2014).

In general, urban sustainability has a triple dimension which are shown in Figure 1:
Density of the built environment is a widely accepted strategy through which sustainable urban forms can be obtained. Urban density refers to proximity and connection and shows that the future of urban development should occur in the vicinity of the existing urban structure (Wheeler, 2002). The density of urban space can minimize the transportation of energy, water, materials, goods and people. An important strategy to achieve compression is effective use of urban land by increasing the density of development and activity. Intensified form of construction involves the development of undeveloped urban land, existing buildings or redevelopment of previously developed land, which is divided into and additions and extensions (Jenks, 2000).

**THE CONCEPT OF COMPRESSION**

**COMPACT CITY**

Before the international promotion of sustainable development, the idea of "radiant city" was proposed by Le Corbusier as a solution to urban problems during the reign of Queen Victoria. Following the ideas of Le Corbusier in connection the radiant city, Dantzing and Saaty (1973) offered the compact city (Dantzing and Saaty, 1973). Their perspectives was based on enhancing the quality of life but not at the expense of "next generation" (ibid: 10). The so-called compact city is a concept quite the opposite in comparison with the concept of urban sprawl. The compact city is more efficient and less polluting. Residents have access to more services and stores and can walk, bike and transportation would be easier. Proponents claim that these cities can promote community-based social patterns (Katz, 1994).
Compact cities represent a unique reaction in order to solve many urban problems such as land use in outskirts, increase resources of waste production, air pollution, and social segregation and so on; and this reaction is synonymous with sustainable city (Neumann, 2005: 17). We can say that urban sustainability requires a balance with the environment and identify existing and potential areas to create a suitable spatial structure. But urban planning evolved during the twentieth century, resulting in a variety of forms in their cities that often pay little attention to environmental impact and spatial structure within the cities. Considering the natural and artificial environment is the main ingredient in the compact city (Ahsani, Asgharzadeh, 2014).

COMPRESSION PARAMETERS IN THE COMPACT CITY
Given the importance of the compact city, Europe Commission and national governments in many Western countries intend to focus on compact cities to reduce pollution and energy consumption (Breheny, 1996). In fact, the population of Europe and Agenda 21 declared that "the development with high-density as a basic principle for urban growth "is an important requirement (De Roo, 2000). Before the international promotion of sustainable development, the idea of "radiant city" was proposed by Le Corbusier as a solution to urban problems during the reign of Queen Victoria. Following the ideas of Le Corbusier in connection the radiant city, Dantzing and Saaty (1973) offered the compact city (Dantzing and Saaty, 1973). Since then, the concept of compact city was formed as a pioneered concept in urban planning, especially in Europe (Haußermann & Haila, 2004). Dantzing and Saaty (1978) were the first ones who attempted to define the compact city and explain the characteristics of compact urban form and space with the features and functions of their community.

Table 1 illustrates this index:

<table>
<thead>
<tr>
<th>Urban form</th>
<th>Spatial features</th>
<th>social factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-density housing</td>
<td>Mixed land use</td>
<td>social justice</td>
</tr>
<tr>
<td>Less Dependence on Cars</td>
<td>Diversity of life</td>
<td>Self-sufficiency from everyday life</td>
</tr>
<tr>
<td>Have a transparent border from the surrounding area</td>
<td>Transparent identity</td>
<td>Independency from government</td>
</tr>
</tbody>
</table>

Source: Adapted from Hideki, 2003

The compact city paradigm is not only based on the concept of efficient use of land and urban area, but also it includes the objectives and parameters that are associated with sustainable urban form. Some of these factors include: (Williams, 1999)

The urban area separated from the residential area, which is the productivity of the used land

Sustainable public transport, less dependent on the car, less climate change, lower travel costs and public health benefits of non-motorized trips

Protect the countryside, farmland, ecological diversity

Focus on urban neighborhoods with indirect social impacts such as social composition, social cohesion, economic diversification, etc.

Generally, compression in the city has three dimensions including density, mixed use and aggravation. Table 2 provides a description of these dimensions and their subdirectories:

| Table 2: Three Dimensions of compression |
The nature of the indices | Compact dimensions
---|---
Density of characteristic nature | Density
Individuals and households per hectare | population density
Individuals and households per hectare with the areas of citizenship in the area | Density of construction form
Density of in dense areas | Density of sub-centers
The percentage of residential buildings built with higher density and lower large and small houses | Residential density
The nature of combined index | Mixed use
Key features and basic quality | Providing facilities
Variation in the number of facilities in each section, and dividing by the average number of possibilities in that sector | Combination / separation facilities in the horizontal plane
Development of retail / residential and commercial / residential development | Vertical mixed use
Nature of Intensification indices | Intensification
The rate of internal migration | Population increase
The rate of new residential buildings, changes in the proportion of small and large houses, rehabilitation of abandoned land and planning approval | Increased development
Changes in the density of the dense area | Increase in the density of sub-centers

Source: Burton, 2008

**NEIGHBORHOOD-ORIENTED IN THE COMPACT CITY**
**URBAN NEIGHBORHOODS**

Neighborhood is one of the most physical divisions in the city. In the past, neighborhood plays an important role in urban areas and objectify its role in contemporary times. The concept of neighborhood has meanings, functions and values that they can be examined at various levels and dimensions. Henri Lefebvre described the neighborhood as an organized form of urban space, and acknowledges that neighborhood organized by social forces (Rabbani, 2002).

In the specialized studies that examined the concept of neighborhood, there are two main attitudes regarding the neighborhood:

A. neighborhood as a physical-spatial unit: In this approach, with an emphasis on spatial concepts, the neighborhood is made up of physical elements such as residential units, communication services and networks that settlement and collection of related activities occur in different spaces of the neighborhood. In such an attitude, neighborhood can create context for relationships and social ties between residents. West neighborhood concept with an emphasis on physical-spatial can become meaningful with such an attitude. In this perspective, Neighborhood can be defined by an index function and borders of neighborhood are determined by the radius of activity performance in this function. Like neighborhoods that are defined by urban planning through the area of school performance. In addition, the neighborhood is defined by its relationship with one or more service organizations or local organs. Like neighborhoods that be defined by the electoral districts, police stations, parks, public transport network, social services and cultural areas covered by the local administration and municipalities or their boundaries (Shi'a, 2003; Saeidnia, 2006).

B. neighborhood as social and physical-spatial unit:
In this view, social and physical-spatial both involved in the definition of neighborhood. This attitude considers neighborhood a more comprehensive concept than the previous approach. Social concept of neighborhood is defined by a set of communication and social interaction. Neighborhood is a primary form of social organization and include those who have shared history. Action and interaction in the neighborhood Creates a sense of belonging and cooperation. In the history of urbanization in Iran, there was a strong social attitude to neighborhood (Ashraf, 1973; Soltanzadeh, 1989; tavassoli, 1997).

**NEIGHBORHOODS AS URBAN COMPACT CELLS**

Urban neighborhoods of the city act as small cell and they are confluence of social, economic aspects and urban space in the small scale of city. Lynch described the neighborhood as such: "a relatively large area of the city that have similar characteristics and are consistent regulatory practice and be able to enter it" (Lynch, 1997). In the compact city model, neighborhoods act as individual cells. "Neighborhood cell" is an urban compact cell which provides favorable conditions and people can reach their destination by walking in about 20 minutes. In addition, the neighborhood cells have a small electrical network which provides heating, power, communication networks and others in the community. And yet, this is linked with other communities and is connected to the transport network. Within the urban compact cells, there is the future structure of the city according to a number of design principles where it is allowed to increase density with increasing vitality and viability of city (IFHP, 2013). Figure 2 shows a model of urban compact cell configuration that is associated with the viability of the concept of "neighborhood cell" as a basis for the development has been introduced in the future.

![Figure 2: urban compact cell configuration](image)

According to the above definitions, the concept of compression in the neighborhood-oriented dimension and urban neighborhood compact cells included multiple dimensions. Hence, we found six important features in the compact urban neighborhoods that are mentioned in Table 3:

| The concept of compression in the neighborhood-oriented dimension in the compact city |  |
|---|---|---|---|---|---|
| The concept of compression in the neighborhood-oriented dimension in the compact city | 1st indicator | 2nd characteristic | 3rd index | 4th indicator | 5th features | 6th feature |
| walkability | Mixing land uses | Connection with surrounding neighborhoods | Multicenter density | Density in the neighborhood tissue | Space status in the neighborhood |  |

Source: authors

**THE INTRODUCTION OF THE STUDIED AREA**

Nazi Abad neighborhood (Madain) is one of the neighborhoods in south of Tehran, located in the 2nd District of Region 16 of Tehran and it is totally 18 square kilometers and more than 600 thousand people live in this populated area. The nearest neighborhood of the old neighborhoods of Tehran is Khanyabad Nou which is located in southwestern of Nazi Abad. In the south, Nazi Abad is limited by Reye town, in the East, this is limited to Railway Square and in the West, and this is limited to
Ghal'eh Morghi Fortress (uni17.blogfa.com). The neighborhood leads to Azadegan Highway in the south, this leads Be'sat Highway in the north, this leads to Rajaee Highway in the East and this leads to Tondgoyan highway in the West. This area has been developed from the Qajar era. But the neighborhood fundamental systematic planning be introduced in line with modernizations of the first Pahlavi and this plan was prepared by German consultants and came into force during the second Pahlavi. Land in the northern part were used to build a factory and people settled in southern and central sectors. This neighborhood has seventy-two squares that there is a lot of public space between all quarters (Mansoor Rezaee & Esmaily, 2010). Nazi Abad is one of the old neighborhoods with a compact texture and because of its ancient culture, it is known as "the heart of Tehran". In recent years, many old houses and buildings in Nazi Abad have been replaced by new buildings and most of them have no identity. This had an adverse impact on the urban environment in Nazi Abad, regardless of compact patterns.

Figure 3: Range of Nazi Abad neighborhood in 16th region of Tehran; Source: Google earth

CHECK COMPRESSION IN NAZI ABAD NEIGHBORHOOD
The study was conducted in Nazi Abad. Nazi Abad is divided into 8 small neighborhood. After reviewing the neighborhoods and taking into account the location, the importance and social status within the range was chosen. The study area covers an area of 19668 square meters and from the North and South and East and West, it is restricted by streets of Akbar Mashadi, martyr Khaleghipour, Kargar Samani and Khalili. In this research, the concept of compression were investigated in this neighborhood. Thus, this study performed according to six criteria listed in Table 3 and using field studies, observation and sketch. The results are shown in Table 4.

Table 4: the concept of compression in Nazi Abad

<table>
<thead>
<tr>
<th>No.</th>
<th>Index</th>
<th>Image</th>
<th>Explanations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>walkability</td>
<td></td>
<td>Lack of attention to pedestrian and bicycle paths - inappropriate distribution of land use compared to walking paths</td>
</tr>
<tr>
<td>2</td>
<td>Mixing land uses</td>
<td></td>
<td>Lack of mixing land uses equally in all parts of the neighborhood</td>
</tr>
</tbody>
</table>
ANALYSIS OF THE RESULTS
In the previous section, the Nazi Abad neighborhood was studied in terms of six factors of compression. Some of these six factors highlighted in this range and others are less visible. After review, the proposed solutions are analyzed and presented. The findings suggest that Nazi Abad neighborhood has a compact texture and compression factors can be seen in urban neighborhoods.

Table 5: strategies and proposals in relation to the characteristics of axial compression in Nazi Abad

<table>
<thead>
<tr>
<th>No.</th>
<th>Index</th>
<th>Strategies and recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>walkability</td>
<td>Create a defined path for pedestrians and bikes accessible location within walking distance of some land uses close to home.</td>
</tr>
<tr>
<td>2</td>
<td>Mixing land uses</td>
<td>Existence of blocks with different uses such as commercial and administrative, residential in different parts of the neighborhood.</td>
</tr>
<tr>
<td>3</td>
<td>Connection with surrounding neighborhoods</td>
<td>Improve zoning at the local level, according to the principle of social relationships and improve the quality of urban life.</td>
</tr>
<tr>
<td>4</td>
<td>Multicenter density</td>
<td>Allows mixing of different land uses in various local centers.</td>
</tr>
<tr>
<td>5</td>
<td>Density in the neighborhood tissue</td>
<td>Pay more attention to the underlying tissue and neighborhood identity and modernization and improvement of the existing fabric according to traditional media viewing buildings accordance with.</td>
</tr>
</tbody>
</table>
the principles of district compression and comply with matching materials in the neighborhood

| 6 | Space status in the neighborhood | Fixed space in the context of the new neighborhood and a new urban development and trying to continue this favorable trend |

CONCLUSION

In modern times, despite the challenges of urbanization, especially in metropolises in Iran, understanding and using the contextual integration is important and undeniable. A successful, desirable and sustainable urban form should include urban contextual dimensions (economic, social, historical, environmental, etc.), so that all services and arrangements be considered with the goal of improving the quality of people's lives and well-being of the community.

The compact city concept that includes economic, social, environmental, etc., is a deserved and suitable model for Iranian cities with the aim of implementing urban planning policies for sustainable urban development. Because, despite the need for sustainable development in Iranian cities, most cities are suffering from the radical sprawl and spread in form and scope. And this caused tension and socioeconomic characteristics, it has been negative for society and the citizens and conversely, compact city model focuses on urban sustainability and centralization and starts from the neighborhood-oriented and gradually expand its own scope throughout the city. It also aims to create a sustainable urban form and spatial structure and seeking social justice and respect for citizens' rights and positive social interaction. Iran also has a rich culture and civilization history. Managers, architects and designers need to design a form and spatial structure in order to illustrate the rich history and culture in Iran. In this paper, the Nazi Abad neighborhood was evaluated in terms of compression. Six factors mentioned in the concept of Compression is indicative of this fact that Nazi Abad texture is dense and intensive, but solutions have been proposed to repair and rectify weaknesses in the neighborhood, which should be practiced carefully. Urban planners and managers should also be sure to apply interpretations.

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SURVEY OF ISLAMIC ART IN THE HOLY SHRINE OF GHASEM (AS) UREH IN THE DAMAVAND CITY OF TEHRAN PROVINCE

Atieh Youzbashi  
Master of Visual Communication, Faculty of Art, Shahed University, Tehran, Iran  
atiehyouzbashi@yahoo.com

Seyed Nezam Oldin Emamifar  
Assistant Professor of Faculty of Art, Shahed University, Tehran, Iran  
n_emamifar@yahoo.com

ABSTRACT
Islamic art or the arts of Muslims is a part of art in Muslim society and not necessarily by Muslims. Although in some cases, this arts may not go with the ethics and rules of Islam. The impact of Islamic and regional culture in this arts is obvious. Islamic art is not an art that is only related to Islam. The “Islamic” does not only refer to the religion but also it refers to the rich culture and different types of people who live in Islamic lands. Familiarity with Islamic art in the shrines and the pictorial motifs in them leads to getting familiar with semiology. Arts used in the shrines are one of the most obvious representatives of Islamic culture and spiritual atmosphere. The way of doing the research is based upon the descriptive and analytic nature, and the way of compiling information is combined. The way of taking sample is not random (Chosen) and the way of interpreting and analyzing the information is both qualitative. Initially in this research, the basic of Islamic art are introduced and then the example of Islamic art in the shrine of Ghasem (AS) which include, wood carving, fretwork, girih tile, illumination and reticulated metal. Motifs and signs and other features are shown in tables and diagrams and one motif is analyzed semiologically. Getting the meaning and understanding the patterns and motifs necessitate deep study. This essay is to consider pictorial motifs, religious beliefs and symbolic meaning in the Islamic art. In the Islamic art, we faced the repeated elements, like; the use of geometric patterns or non-realistic drawing of a flower or plant that is called arabesque. Arabesque motifs in Islamic art are often used as the symbol of a very vast universe which is created by God. Deliberation in not showing and imitating nature exactly is said to be as a sign of the modesty of the artists who believe, creation of perfection is just for god, as a result in the motifs and decoration of Damavand shrine, the flowers and plants that are specific for that region is not used.

Keywords: Islamic art, shrine, Damavand city, the shrine of Ghasem (AS) Ureh, Semiology

INTRODUCTION
Motifs and patterns make a dynamic relationship between society and art and these motifs, whether inspired by regional culture of people or foreign cultures or Islamic culture, play an important role in assigning the decorative elements of present time and feature.

Generally tomb is one or more religious or political characters are buried, this type of monuments is divided into two categories, Religious tombs (shrine), non-religious tombs.

Iranian artist have had a very important prophecy in choosing natural forms for decorating the monuments and their aim was to make a connection between material and spiritual world. Therefore, the motifs used
by them are based on special concepts, not just for decorating objects and monuments. <Decoration which is the main source of Iran, is not just for joy or pleasure, it has deeper meaning> (Pope, 1380, p.2) as a result despite various concepts between Iranian art and other cultures and civilization throughout the history. New features have been created with fidelity to old Islamic tradition that Iranian Islamic identity is clear in them.

Motifs and decorative patterns are a treasure resulted from Iranian-Islamic art and culture. Iranian artists used common patterns because of being conservative and traditional.

After the rise of Islam this religious, socially, cultural, politically and financially affected the societies. Art was also influenced and transformed by this religion and was recognized with a new name as Islamic art. Islamic art as the name suggests, was improved and developed in different historical and geographical eras after the rise of Islam. Many researchers in their works have introduced this art in different historical eras and have defined this art and almost with common examples they have given various theories and definitions of this art. Revising the analysis and interpretations that are already done. About Islamic art and definition of its nature, is for gaining a majestic and holy art in our contemporary time. Because art impress societies and people to a great extent.

By analyzing the achievement of the researchers in this field. Eight perspectives are recognized the art of Islamic lands, the art of Muslims. Art inspired by scriptures geometric and abstract art, holy art, religious art, Islamic art includes all above.

We may rarely find an art that is attached to people leaves as graphic and architecture. The architecture of the shrine is one of the most obvious examples of Islamic art and show the spiritual atmosphere. Decorations, motifs, patterns, compounds and coordination of all make the view of the monuments. Motifs used in the shrines are an issue that has attracted the attention of the artists. Plant and geometric motifs have made various fields for research and analysis. I fact these motifs and majestic decoration in the shrines are one of the most spiritual, beautiful, and attractive arts in religious places. In this research we are to find out whether this motifs are related to the beliefs and plants of Damavand or not used also it is going to define the Islamic art in shrine of Ghasem (AS).

**ISLAMIC ART**

Islamic art or the arts of Muslims is a part of art in Muslim society and not necessary by Muslims. Although in some cases, these arts may not go with the ethics and rules of Islam, the impact of Islamic and regional culture in these arts is obvious. Islamic art is one of the most magnificent periods in the history of art and is one of the most valuable human achievement in

The field of art. And includes different types of art such as calligraphy, architecture, painting, girih tile. Islamic art is not an art that is only related to Islam. The word Islamic does not refer to the rich culture and different types of people who live in Islamic lands. Islamic art also contains secular elements which are not considered as a taboo by Islamic clergyman. (Davies, 2007, p 277)

In Islamic scriptures (Quran) and the instructions of the prophet of Islam. There are a few issues about art. In Quran showing the pictures of living creatures is directly barred and as a result, many Muslims have considered the drawing of living creatures faces as a danger as blasphemy and it is believed to be a sin. Therefore Islamic art often concentrates on beauty creation with the use of letters and abstract motifs. Because of these restrictions comparing with other arts such as painting, sculpture, music (sometimes these arts are considered sinful). Muslims have developed different styles in the abstract field. (Javaher ol Kalam, v.22, p.41; Man la yahzarat ol faghieh, v.4, p.5)
Picturing the prophet of Islam is rejected by most of the Muslims and sometimes even picturing any creature or human being is not acceptable. Despite this fact, in Islamic lands there has always been picturing of the face of the prophet. In addition to the rejection of picturing the prophet, mental image or perception of God as we see in Hinduism and Christianity is not common in Islam. All these geographical, social, cultural reasons and competition with other civilizations led to the special attention of the Islamic artists to abstract arts such as calligraphy, geometric motifs or arabesque and architecture. Islamic art is much more limited than Christian or Buddhist art that specifically uses forms of art such as sculpture, painting, music or dance, in the churches or temples. “Servat Akasheh” distinguished Egyptian researcher writes: < religious painting in the initial periods of Islam was not acceptable and admired as it was in Buddhism or Christianity mosques were empty of religious paintings and painting was not used for religious instructions and making religious believes unity 14th C (AH) (Akasheh, 1380, p.107)

In Islamic art we face repeated elements, like the use of geometric patterns or a non-realistic drawing of a flower or plant that is called arabesque. Arabesque motifs in Islamic art are often used as the symbol of a very vast universe that is created by God. Although it is not accepted by all. The deliberation is not showing and imitating the nature exactly is said to be a sign of the modesty of the artists who believed that creation of perfection is just for God.

ISLAMIC ART, MANIFESTATION OF ORIGINAL SPIRITUAL ART
Although orientalists have named art coordinates among the Muslims a decorative art, we must beware that definition is due to their back of aware uses about the secrets and meaning of this type of art that only shows monotheism. These arts have chosen a way in which no element could say,”Me” (no Individual) (Borkheart, 1373) the elements of these arts are not individual like icon, pictures and some geometric forms to express themselves or even to try to establish a spiritual value on their own. These elements are reduced in totality and universality to a great extent that they can only refer to monotheism, and moreover Islamic art is free from the individuality of the artists, even time and place and elements. By looking at arabesque motifs we could easily find out that they are free from time and place and it could only refer to monotheism. (Naghizadeh, 1387, p.217)

We could say that art is a manifestation of spiritual aspects of human beings in nature that sometimes serves the divine thoughts of human beings and sometimes serves the instincts. Islamic art is an art that is the manifestation of human spirituality and commitments and improves the thoughts and actions of human being and does not weaken and misguide human thoughts and action.

An art which only serves the instinct and material aspects of life and is in the series of malice and malicious people is an inferior and non-religious art.

The rise of Islamic art out of religion and new governments was not gradually and step by step, like Islam itself was a sudden process. Most of the elements forming and decorating the monuments in the initial eras of Islam were affected by Muslims, serving some purposes that were not available before Islam.

Islamic art to develop itself was inspired by many sources; Roman art, Initial Christian art and Bizans art were influential in Islamic art and architecture. The impact of Sassanid art in Iran before Islam was more important, later different styles and elements from middle Asia and China during the invading of Moguls impressed Islamic painting, pottery and textile a lot.

In Islamic scriptures (Quran) and the instructions of the prophet of Islam. There are a few issues about art. In Quran showing the pictures of living creatures is directly barred and as a result, many Muslims have considered the drawing of living creatures faces as a danger as blasphemy and it is believed to be a sin. Therefore Islamic art often concentrates on beauty creation with the use of letters and abstract motifs.
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RELIGIOUS ART

The most fundamental part of art is the divine art that is connected to the spiritual life of human being. Religious art is an art that has taken its concepts from religion but it implies the religious fundamentals in a way that is more indirect. For instance; graphics in comparison with Quran as a divine art. The term “Divine” especially when it is used in art. Only shows a series of traditional manifestation which are directly connected to the spiritual fundamentals mentioned above.

RELATION BETWEEN RELIGION AND ART

Art takes its rules, fundamentals and values from the ontology and culture dominant in society or in other word from the beliefs of the artists, and religion with its totality and domination over the body and soul of human being is the the most suitable source for spiritual art, religion guides the art to show what is needed for human bliss in a suitable and attractive way. (Naghizadeh, 1387, p.87)

THE HOLY SHRINE OF GHASEM (AS), UREH

<table>
<thead>
<tr>
<th>holy Shrine of Ghasem (AS), Ureh</th>
<th>Name of shrine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Damavand, 17 shahrivar Sq, Dashte mazar St, opposite the cemetery</td>
<td>location</td>
</tr>
<tr>
<td>6th &amp; 7th AD</td>
<td>Date of construction</td>
</tr>
<tr>
<td>Red stone, cobalt stone, gray stone, brick, aza reh, stone</td>
<td>inside view materials</td>
</tr>
<tr>
<td>Brick, white cemon</td>
<td>outside view materials</td>
</tr>
<tr>
<td>Round dome from inside, stone, mirror Galvanized steel, golden</td>
<td>Roof materials</td>
</tr>
<tr>
<td>stone</td>
<td>Floor materials</td>
</tr>
<tr>
<td>Pyramidal dome</td>
<td>Dome kind</td>
</tr>
<tr>
<td>No</td>
<td>minaret</td>
</tr>
</tbody>
</table>
The holy shrine of Ghasem (AS) in located in Damavand, the Ureh village, two kilometers from north away from the main mosque. The monument of the shrine includes a tower which is circular outside and octagonal inside and each side there is an arch in the form of mound.

The vast vicinity of the shrine nowadays is used as cemetery for the people of that era. The antiquity of this monument in comparison with architecture style of other holy monuments in the regions probably due to 6th or 7th AH C. Islamic arts in this shrine contains; wood carving, girih tile, enamelware, gilding, mirror working, fretwork the reticulated metal.

**Table 1.** General skim on holy Shrine of Ghasem (AS), Ureh. Source; Negarandegan.

<table>
<thead>
<tr>
<th>Motif Images</th>
<th>Composition</th>
<th>Motif Base</th>
<th>Decoration Kind</th>
<th>Materials Kind</th>
<th>Sign Kind</th>
<th>Motif Kind</th>
<th>Motif Name</th>
<th>Motif Color</th>
<th>Motif Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>horiz</td>
<td>rectangl</td>
<td>Vitreus enamel, wood carving</td>
<td>wood</td>
<td>symbol</td>
<td>graphic lines</td>
<td>arabe sque</td>
<td>Gold en, turiqoise blue</td>
<td>Ens hrin e Taj</td>
<td>enshrine</td>
</tr>
</tbody>
</table>

1 enter door of shrine

2 door, 1 enter door

**Table 2.** All Motifs of Holy Shrine of Ghasem (AS)
<table>
<thead>
<tr>
<th>Horizonal Rectangle</th>
<th>Wood Painting</th>
<th>Wood Symbolic Lines</th>
<th>Epigraphy</th>
<th>Brown Enshrine Taj</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symmetry Rectangle</td>
<td>Tile, Gilding on Tile</td>
<td>Symbolic Mosaic</td>
<td>Epigraphy</td>
<td>Traditional Colors</td>
</tr>
<tr>
<td>Diffuse Square</td>
<td>Mirror Working, Girih Tile</td>
<td>Mirror Iconic Geometric</td>
<td>Four-Pointed Flower</td>
<td>Silver Roof</td>
</tr>
<tr>
<td>Symmetry Rectangle</td>
<td>Reticular Steel</td>
<td>Symbolic Metal</td>
<td>Arabesque Brown Main Door</td>
<td></td>
</tr>
</tbody>
</table>

**Image 1.** Islamic Arts, Holy Shrine of Ghasem (AS) Ureh; source: Atieh Youzbashi

**Table 3.** Frequently distribution results of the study of motifs in Shrine of Ghasem (AS) Ureh

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Motif Number</th>
<th>Sanctuary Outside Wall</th>
<th>Inside Wall</th>
<th>Column Roof</th>
<th>Window Door</th>
<th>Enshrine Locations and Motifs Kind</th>
</tr>
</thead>
<tbody>
<tr>
<td>%20</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>Geometric Al Motifs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Animal Motifs</td>
</tr>
</tbody>
</table>
By considering the analysis of the motifs in shrine of Ghasem (AS), which are of five motifs, in a square, frequency and percentage are as below: Graphic lines 3 & 60% - geometric and plant motifs each 1 & 20% - no animal motifs are used. (Table 3, diagram 1)

**Table 3.** Frequently distribution results of the study of sign in Shrine of Ghasem (AS) Ureh

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Motif number</th>
<th>Sanctuary</th>
<th>Outside wall</th>
<th>Inside wall</th>
<th>Column</th>
<th>Roof</th>
<th>Window</th>
<th>Door</th>
<th>Enshrine</th>
<th>Location and sign kind</th>
</tr>
</thead>
<tbody>
<tr>
<td>%80</td>
<td>4</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
<td>Symbolic sign</td>
</tr>
<tr>
<td>%20</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Visual sign</td>
</tr>
<tr>
<td>%100</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
<td>sign Number</td>
</tr>
</tbody>
</table>
By regarding the Semiological analysis of the Ghasem shrine which has five sign, in a sequence, frequency and percentage are as below:

Symbolic sign 4 & 80% - visual sign 1 & 20% - Namayeh sign is not used. (Table 4, diagram 2)
THE CEILING PATTERN OF GHASEM SHRINE, UREH

Table 5. The Ceiling Pattern of Ghasem Shrine, Ureh, geometric four-sided flower, source; Negaraneghan

<table>
<thead>
<tr>
<th>Forming visual elements: spot, line, surface, volume</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Composition</th>
<th>Pattern format</th>
<th>Decorating Techniques</th>
<th>Materials kind</th>
<th>Sign kind</th>
<th>Pattern kind</th>
<th>Pattern name</th>
<th>Color</th>
<th>Pattern name</th>
</tr>
</thead>
<tbody>
<tr>
<td>diffuse</td>
<td>square</td>
<td>Mirror working</td>
<td>mirror</td>
<td>visual</td>
<td>geometrical</td>
<td>Four-sided flower</td>
<td>silver</td>
<td>ceiling</td>
</tr>
</tbody>
</table>

EXPLICIT DENOTATION SURVEY

In this style of mirror working, first the stringing is done, thus geometric motif is silver and there is a big geometric tetramerous star in the middle of the square and there are four squares in ten corners and each one of the square are made of four triangle and between these squares there is a rectangle. Symmetrical combination is used in forming the motif and this combination is in all parts of the monument. (Table 5, image 3)

Image 3. The Ceiling Pattern of Ghasem Shrine, Ureh. Linier and color reconstruction of pattern and geometrical base; source: Negaraneghan
IMPLIED DENOTATION SURVEY

Mirror decoration is deeply rooted in Iranian mystical tradition and their spiritual beliefs. The first sign or mirror was to show man’s face. Maybe it is better to know that the cause of appearing the mirror was that man wanted to see himself clearly. But mirror decoration introduce it as a spiritual foundation. In fact according to what could have been seen in eastern mysticism and especially from the some mystic points of view such as Rumi is to pass from materiality to reach the sublime the universe or nature divine. Actually, for reaching the fact in which is the existence of god. One should relinguish himself, so far perfection and joiner could achieved, as Rumi introduced the way to righteous by skip and ignoring the world.

When a mirror breaks or cracks at its surface it shows figures fragmented, that this refers to two mystical beliefs. First fragmentation that is irony of smashing of face which is for achieving the righteous.

And the second one is the creation of multiple images of a single object. Normally, a mirror shows just one image but as soon as it cracks thousands image appears. In fact the viewer finds his face in the mirror for thousands times. This issue could be regarded as a sign of unity in diversity. Thus we could say that the mirror is reminiscent in Persian architecture. The unity of creation and the creatures of universe is to guide the religious person. Apart from these two features in Persian architecture mirror decoration is manifested as well as light. Mirror reflects light and increase its effect thus we could say Persian mirror decoration motifs are taken from girihi tile and this patterns are themselves a visualization of nothing except praying. Hence it can be said that mirror decoration is an art that interests its viewers to the absolute nature of god and is an unquestioned embodiment of religious art. (www.honarnews.com)

Girihs, are the Persian architecture decoration and form from Stright lines according to certain rules, and girihi could make their own instrument (Sherbaf, 1372, p9). Therefore girihi or roman rope is just one part of the patterns various part, in which could be used alone or in combination with other motifs (Najiboghloo, 1379, p.155) according to the naturalistic theme in buildings, those buildings which are covered by two or three dimentional girihi pattern could tell the universe allegories. Through geometric patterns, those which have stars are most associate the sky.

Night, which is made of orbital and concentric circles reminds, starsorbit and are shining in the full star sky. The fractures lines of the various stars centre which have intersection and makes the polygons and subsidiary stars has an ambigious visual identity (Najiboghloo, 1370, p.161) “Number four is one of the most completed numbers”and is the number of divine perfection and manifestation. According to Eeclid geometry, “four” about its standing form get changed to square. (Akbari, 1389, p.88) the square is the password of the divine throne.

<table>
<thead>
<tr>
<th>Flower image</th>
<th>Linier reconstruction of flower</th>
<th>Plant Name</th>
<th>row</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Flower Image" /></td>
<td><img src="image2" alt="Linier Image" /></td>
<td>milfoil, yarrow</td>
<td>1</td>
</tr>
<tr>
<td>No.</td>
<td>Plant Name</td>
<td>Details</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------</td>
<td>------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Old plant Damavand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Kollah Mir hosein Damavandi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Damavandi Rish Ghoosh</td>
<td>(Kafshak)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Faramoosham Nakon Damavandi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Damavandi Urceolate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Damavandi Katani</td>
<td>(Lentil)</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Damavandi Lily</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Gach Doost</td>
<td>(Sadafi flower)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Bride flower)</td>
<td></td>
</tr>
</tbody>
</table>
CONCLUSION

In Islamic art we faced repeated elements, such as geometric patterns or non-realistic drawing of a flower or plant which is called arabesque. Arabesque motifs in Islamic art are used as a symbol of a very vast universe that is created by god. Deliberation in not showing and imitating the nature exactly is said to be a sign of modesty of the artists who believe that creation of perfection is just for God. As a result, in the motifs and decorations of the shrines in Damavand city, the specific flowers or buds of the region are not used.

And also the motifs which represent the ceremonies and believes of the region are not seen. But artists have used motifs and decorations which follow the Iranian-Islamic culture. Iranian artists have had an important prophecy to choose natural flowers for decorating the monuments and their aim was to make a connection between the material and spiritual world. As a result, the motifs used by them are based upon Islamic concepts and are not used just as decoration. Spiritual issues are not imaginable and cannot be shown. But because they exist and they are true. Artists must use some instruments to show them and the most popular instruments is $<$symbol$>$ every society specially those are committed to spirituality, must be familiar with the secrets and symbols in their culture to have a better relation with literature, art, and culture to have a better understanding of them.

Iranian artists have used common patterns because of being traditional and conservative all imitations and innovations in the world of elements make a very friendly atmosphere and would be of our essence and nature and the more delicate the changes are, the more acceptable they would be. To observe the traditional mentality. Motifs and decorations are treasures resulted from our Iranian-Islamic culture. Graphics as a new art in Iran must be taken advantage of this ancient source to express itself in the best way possible. Motifs by using the familiar language of the patterns must express the inner emotions of the society specially in a society like Iran which people honors the past memories and old traditions.

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THE IMPACT OF RURAL TOURIST RECREATIONAL SPACE DESIGN ON TOURISM DEVELOPMENT AND TOURIST ATTRACTION IN IRAN

Kianoosh Yousefi
Master Of Architecture, Islamic Azad University, Kerman Branch

ABSTRACT

Rural development and thus, country development is a multi-dimensional process which its subject is improving the quality of life of the vulnerable villagers. One of the development dimensions which can have the overall impact on people's lives is the expansion of tourism. Rural tourism is considered as a process in rural development which can evolve village economy and environment by creating complementary activities and thus, leads to improve the quality of life and a balanced and proportional distribution of services and facilities. If rural tourism be done planned and purposeful, it can be protected from injuries which tourist causes. One way of making this process purposeful is creating specific spaces with capability of transform into recreational spaces. Centralizing tourist recreational services providing with the goal of creating an appropriate service atmosphere causes maintaining order and control of the environment and creating ecological balance. In this article, we are going to learn about importance of designing these spaces in villages and its role in the development of the national tourism industry.

Keywords: tourism development, rural tourist recreational spaces, rural development, tourism

INTRODUCTION

Villages were created in response to human settlement and formation of first bio complexes. The creation of common goals caused a kind of attachment and affection and common interests between residents and this is one of the factors which was considered as texture development of the village. A common behavior among residents was created seeks to create common ground of human that led to create similar spaces in the name of housing with common features, after providing basic human needs, it was subpoenaed from individual environment and isolationism to the social environment and the scene of actions and social interactions of people was developed and spaces for mass communication was created. The sum of individual and collective created spaces in each village is so called village texture, that this texture has value and social, climatic, cultural and artistic features of residents.

Iran has a wide range of diversity in rural contexts according to the vast existing expanse and five climatic zones and the creation of different ethnic groups with different cultures. Despite the rich elements of architecture and landscape architecture, the village which are not few in the country, for various reasons, caused a degree of wear and tear on their body and activity and the spirit of life in them is gradually being destroyed.

Lack of basic amenities of living, poverty and lack of sustainable employment opportunities and thus, being under the damage of economic situation of households have led to the gradual evacuation of the inhabitants of such places. While these valuable rural textures can become amenable and pleasant for tourists and leisure, they are being converted to ruins of residential buildings which will be forgotten because of the destruction of important architectural and natural elements of different parts of Iran.

Sustainable tourism development is the best solution to prevent physical deterioration and social and economic life of such environments. Such development plays an effective role in the revitalization of the textures by approach of a tourist attraction while preserving natural resources and natural landscape and creating tourist recreational space with minimal manipulation of the natural environment, thus will result
in poverty alleviation, reduction of immigration, creating social welfare, preservation of traditional valuable textures, cultural revitalization and globalization of the village as well as agricultural activities.

RESEARCH METHOD
The research method in this study is analytical, descriptive and interpretive. The main part of used data is obtained through observational method in form of field studies and partly through library research.

CONCEPTS
Development and tourism development:

Discover ways to achieve evolutionary movement is considered as development, which balances social, economic and cultural phenomena and provides new conditions for social, economic mobility and realization of social justice (Zahedi Asl 5: 1381).

Accordingly, benefit people is known as the basic objective of development, which encompasses improving the quality of life and appears in the form of incomes rising and expanding of employment and general welfare (Griffin and Mac Kennelly, 11: 1375) Hence the concept of human development and sustainable development, will have binding relation which needs to standardize and synchronize with each other and in this way, taking advantage of social capital and social participation is important.

Accordingly, the development must be shaped in the form of the identity of each nation, which a collection of idea reserves existed in the identity construction is used to accelerate the development process. The concept of development has both quantitative and qualitative dimensions and the economic aspect is considered as quantitative dimension which points out economic growth that monitors the slow and gradual changes in the savings rate and improve national per capita income and GDP and according to "Leberger", it is productivity growth without being changed in the manner and in the production organization and "Friedmann" also considers it as expanding system in different directions without changing the infrastructure (Zahedi Asl, 9: 1381).

The development basic objective may be considered as the qualitative dimension of development, which a means called social security is needed to achieve it, to allow movement to achieve social welfare, accordingly, social welfare indicators can be considered as economic, family, health, nutrition conditions and the field of collective life (Mohseni, 1382) education, healthcare & employment, housing and leisure (Zahedi Asl, 1381).

Rural Development:

It is the process of empowering and strengthening the ability of life in the context of life and environmental quality, performance, economic self-sufficiency and maintenance and improvement of environmental quality in rural areas (2003: 7, Holand).

The development is assumed as positive changes which involve improving lives of the people (Zamani Pur, 40: 1373). Sizer considers development as the multidimensional flow which is followed by different reorganization and orientation of whole economic and social system and in many cases, it encompasses customs and beliefs of the people (Abedi sarvestani 138: 1385).

In third world countries, two visions have been considered in the field of rural development.

First: vision of improving and modifying and second: vision of transforming (Seyed Javad Mir, 1371-Azkia, 1374 - Ashurani, 1375).

Since tourism is considered as a process in rural development, the evaluation component of tourism should be specially referred to within the framework of rural development as a management position and
attempted to provide the possibility of evaluating process of rural tourism and, if necessary, its continuity by identifying objectives and environmental impacts of tourism.

![Figure 1: Results of environmental studies (Sources: Mahmudinezhad (1387))](image)

The position of tourism in rural development:

Since rural development is not only focused on agricultural development (Mira, 11: 1365), opportunities can be considered for more efficiency of rural development. In the meantime, rural tourism should be considered as an approach towards rural empowerment to have sustainable livelihoods and life quality improvement in the context of a special focus on agricultural development as one of the vital activities of human life. Accordingly, tourism is considered as the new approach in rural development, which in addition to economic recovery and growth, it provides protection possibility of rural environment together with support from indigenous culture and strengthen the local social customs. Based on this, it can be realized that the position of rural tourism should be studied by evaluating the economic, social and environmental characteristics. Meanwhile, paying attention to the procedure of sustainable development and correspondence between rural tourism purposes and rural development seems necessary.

Rural tourism:

Currently, as a sector of the market and one of the most popular tourist types, rural tourism has been paid attention to by many tourists. As a destination, the tourism sector has its own customers and has been growing day by day and attracts more customers. What will attract tourists to rural areas is varied and includes a range from absolute silence and tranquility of nature to religious and historical attractions and other types of attractions which can be found in cities.

In general, according to the concept of rural tourism, it can be said "multifaceted activity which takes place outside of the city and shows tourists the essence of rural life » (Graham Dann, 1999). Or all tourism activities in the rural environment according to traditional texture and culture, art and rural industries, traditional customs which include agricultural tourism, green tourism, farm tourism, food tourism and hunting (Ghaderi, 1383).
Rural tourism has different samples that illustrate complex pattern of environment, economy, history and village location (Lin 1994). Nature and rural environment and historical and cultural heritage are main requirements of tourism development, because these factors play important role in attracting tourists and rural life in last decade and due to increased tourism. So it can be said that rural tourism includes tourism activities in various fields that are shown in Figure 2.

It can be said that if natural attractions of villages such as clean air and nature are incentives of travelling to village it will be recreational tourism; if the aim is to visit regional and agricultural production it will be agricultural tourism; if the aims is to work in farm it will be farm tourism; if the aims is to spend leisure time and use tourism and recreational spaces of rural, it will be recreational tourism; if the aims is to get specific cultural features of places such as customs, indigenous sports and music, it will be cultural tourism and if the aim is pristine nature with all its ecological characteristics it will be ecotourism.

The need for rural recreational spaces:

In tourism industry, the environment (natural or artificial) is not only the context of tourism activities, but it is considered attraction and creates interaction between environment and tourism activity that contains variety of economic, social and administrative effects and consequences.

Since rural attractions are main requirements of rural tourism formation (not sufficient requirements), then combining attractions with other components can shape tourism product in the best form; rural tourism special atmosphere will be created when tourism products can be aligned with other services. In this regard, we need feasibility of rural tourism in order to recognize the product-oriented potential; below concept refers to this matter.
According to proposed model, it can be said that five above-mentioned factors can play essential role in creation of rural development document and assessment of village for sustainable development depends on table formation including measurement of these factors and solve them.

Development of tourism infrastructures is often a key factor in growth of this activity. Catering facilities of reception, transportation, yachts harbor, recreational equipment such as tele-cabins and game fields and other tourism activities are infrastructure that are proposed for sustainable development of tourism.

Entertainment capabilities of each village can be increased after development of infrastructures and facilities and due to potential of each country based on its location and leisure – tourist times so that potential facilities are converted to practical facilities.

Since tourism industry is effective on income amount and national income, its development will increase these effects in infrastructure sector and services sector and will play significant role in industry stability. In addition, it will improve and maintain rural valuable areas as well as will design and create hangouts for tourists in order to spend more time in those places.

Tourist resorts or recreational touristic spaces are destinations that provide a wide range of tourism facilities and services and are designed for relaxation or health of clients.

These spaces can be merged and provide a variety of services to customers.

Construction of each recreational and touristic space in villages requires money and manpower in three stages of pre-construction, construction and post-construction; employment in every stage leads to creation of employment opportunities and native income and can save location and future development of village in long term by reimbursement of expenses.

Studies show that each country can attract especial visitors in a particular context and make them his attractions customers. Visitors provide revenues and if they stay more than one day, revenues will
increase, too. Meanwhile, tourism revenues lead to more revenue, cash flow and ultimately economic prosperity of region.

Awareness of each village values and recreational and touristic attractions creates national interest and pride among local people created and makes them resources guards. Some areas are forgotten over time due to lack of recreational and tourist facilities in attracting tourists. However, using a clear strategy and a detailed analysis we can change desert area or a dry mountain to place with touristic attractions.

In addition, the presence of tourists in village can have negative effects and consequences including ecological, biological and cultural damages. Using appropriate strategies are better for development of rural tourism and support places against damage. Therefore, determining the specific locations with capabilities of recreational-touristic space we can develop regional tourism industry to national tourism and control the process and prevent irreparable damages.

CONCLUSION
If local community has necessary motivation, financial assistance and technical support in order to build dynamic space and sustain tourism industry it can take advantage of available resources for residential development and offer traditional values. Creating diversity in appropriate spaces with facilities and security for all segments of society can be mentioned in national scale; if these objectives are to be submitted in correct order and in accordance with appropriate program; they can receive a large number of visitors and foreign tourists. So we can say that revival and preservation of valuable rural areas, concentrated leisure and touristic areas services are important factor in sustainable development of tourism in national and regional scales.

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Holland,j, Burain, M.(2003), Tourism in Poor Rural Areas, Diversifying the product and expanding the benefits in rural, paper No.12
CLIMATIC FACTORS OF ARCHITECTURE USED IN BUILDING DESIGN OF ASSOCIATION OF VISUAL ARTS OF FARS – SHIRAZ

Moslem Saman Ghooei
MA Student, Department of Architecture, Islamic Azad University, International Qeshm Branch, Qeshm, Iran

Alireza Shojaei
Assistant Professor, Department of Architecture, Islamic Azad University, International Qeshm Branch, Qeshm, Iran

ABSTRACT
The objective of the present study was to investigate the climatic factors of architecture used in building design of Association of Visual Arts of Fars – Shiraz. Methods: In the present study, descriptive – libraries and descriptive - analytic method was used. Results: By investigating the different climatic factors and geographical location of the city of Shiraz and also the investigating the impact of climatic conditions on the formation of other buildings, the climatic factors of architecture used in building design of Association of Visual Arts of Shiraz was more pronounced. In designing listed building from climatic conditions of region to improve the life and well-considered energy consumption is also improved. Another feature that has been considered in the design and construction are as follows. Considering the above and visit the city map, the site with an area of 7000 square meters in the neighborhood of Hafeziyeh with a vision to the historic fabric of the city is located. Piece of land of the historic fabric of the city of Shiraz between two Adabiyat and Haft Tan streets which is located in the North East of Shiraz, this site is located on the back of Hafeziyeh with a slope of about 5 percent. This site is to the north overlooking Haft Tan and Jahan Nama Garden and the south side is overlooking Hafeziyeh. Keyword: City of Shiraz, Shiraz climatic conditions, Architecture of Association of Visual Arts

INTRODUCTION
The culture of a society is unique and involves a combination of values and norms that cannot be found elsewhere. A diverse range of cultures so widespread that even the understanding of mental construction lifestyle of our ancestors in our society is relatively difficult. (Toufan, 2007) However, any country that has a history and civilization is clear that this culture will be richer culture as well as the identity. Thus the Arts as one of the sub-culture of each country or region can be considered as one of the indicators of cultural and national identity and the civilization it represents the country because one of the purposes of art, especially architecture as one of the seven arts, culture and identity over the centuries in countries. Culture is an important factor in the formation of architectural spaces is considered. Every society has its own culture which is the foundation of society, founded the architecture and architecture of the Community objective picture of the cultural heritage. In fact, architecture and culture of a nation is measured by the real. The culture of the community is the formation of spaces. (Diba, 1999). Iran's territorial extent latitudes, varied climates and has been followed. In the meantime, the concept of architecture is influenced by a variety of ancient and diverse architecture tailored to each region, by the people of this land has emerged. From the start, I realized that human experience in any environment How to build a building to have the most favorable housing. As long as man is free to determine its location must all interactions with the environment in mind. This mechanism is to estimate the chances environmental engineers and architects often considered as a fact in the history of architecture and building design, attempt to respond to weather conditions, even in so-called primitive architectural design and magnificent climate has been precisely (Watson, 2011). Given the importance of climate's influence on the design of the building, one of the buildings in the city of Shiraz in terms of climate features intended to make the design and architecture was studied. The importance of choosing the foundation of Association of
Visual Arts of Shiraz, due to the lack of relevant research can be noted in the description of its architectural features.

OBJECTIVE
The objective of the present study was to investigate the climatic factors of architecture used in building design of Association of Visual Arts of Fars – Shiraz.

RESEARCH METHODOLOGY
In the present study, descriptive – libraries and descriptive - analytic method was used.

DISCUSSION AND CONCLUSION
INVESTIGATING THE STATUS OF SHIRAZ CITY
Shiraz city, Capital of Fars Province in longitude 52 degrees, latitude 29 degrees 32 minutes and in an area with a height of 1491 meters above sea level is located. Shiraz city with an area of 10531 square kilometers, 8.5% of the total area of Fars province to be allocated. This city from North is limited to the city of Marvdasht and Arsanjan and from West is limited to the city of Mamasani and Kazeroon, from the south is limited to the city of Firozabad and Jahrom and from the East is limited to the city of Fasa and Neyriz. According to the latest national distribution urban areas of the city has seven points (Shiraz, Kovar, Sarvestan, Kharameh, Zarghan, Daryan, Lapouei) and six sections namely (Zarghan, Savestan, Karbal, Markazi, Arjan and Kovar) and 22 villages and 515 villages with a population of 216 villages have been deserted (Kasmaee, 2010)).

COMFORT ZONE
By using different Givoni building bioclimatic tables and control of interior spaces in climatic conditions of region is investigated. Human comfort zone in relation to two climate, temperature and air humidity and temperature parameters based on dry, wet temperature, relative humidity and vapor pressure specified. As is clear from Table bioclimatic building, May in comfort zone has favorable conditions. In the months of August, July and June there is a lack of moisture. October, November, February and March using enough radiation to appear. But in December, January and February to achieve comfort, additional heat source is necessary.

DETERMINING THE OPTIMUM DIRECTION USING CLIMATIC DESIGN
To determine an optimal direction for buildings and sets, two main operating position of the sun (radiation) and local prevailing winds and have been studied. Accordingly, the amount of thermal energy thermal energy that falls on vertical surfaces in latitude 29 degrees has been calculated and plotted. Change heating curve shows the energy balance in different directions building is warm and cold periods. According to the desired direction, the highest in winter and lowest in summer insolation is received. South direction is selected as the optimum direction. The wind directions from West to the North West domain is not desirable shifts. In addition, East and Southwest is the dominant local winds. To the south is optimal in terms of radiation that is effective on the winds. Because the cold winter winds northwest 50 to 60 percent decrease. Local wind in the summer and warm seasons desired effects, especially mountain - Western - Southwest winds is noticeable and effective in the modulation of comfort. To determine the relative importance of the different climatic design, especially in climates multiple table's month has suggested that using them in possession of statistics major regional climate characteristics and resistance to climatic conditions in the study area can be detected as below. Thermal conditions in this region in the whole year so that should be indoors to keep warm at night, the heat-generating devices are used, but the average maximum temperature and minimum relative humidity in this region in the whole year within the system passive solar is located. So for space heating in the building during the winter and even during the coldest month of solar energy can be used. In the hottest months of the year, the hottest hours of air thermal conditions outside the scope of building materials and the use of cooling devices placed. However, due to dry in a substantial part of the day will be using the thermal performance of building materials and heavy thermal conditions indoors to be controlled at an acceptable level.

INVESTIGATION OF CLIMATE ISSUES ASSOCIATED WITH BUILDING ARCHITECTURE

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General tissue Shiraz has a rotating 30 degrees to the West, which determines the order buildings to 30 degrees west or 60 ° southeast. The determining factor in the rotation direction of the sun into the shade as well as a range of external spaces.

CLIMATIC ARCHITECTURE:

Architecture is different climates with different applications in each of its elements must be deployed comfort to relax (Kasmaee, 2003, page 11) Hence creating a comfortable environment and favorable conditions for life and security of the residents against adverse environmental conditions and serious architecture is an integral principles that according to each region in proportion to its review of the work and patterns provided.

CLIMATE OF SHIRAZ:

According to studies in the city's annual average climatic factors is as follows. The average temperature in Shiraz 17.24 on an annual basis, total rainfall 322.2, the average relative humidity 41.8 and the number of frost days is 50 days a year.

<table>
<thead>
<tr>
<th>(Direction) prevailing winds</th>
<th>Frost days</th>
<th>Relative Humidity (percent)</th>
<th>Temperature</th>
<th>Precipitation (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>West and North West</td>
<td>50</td>
<td>41.8</td>
<td>17.24</td>
<td>322.2</td>
</tr>
</tbody>
</table>

Annual average

BIOCLIMATIC CHARTS (BASED ON COMFORT ZONE OF SHIRAZ):

According to the bioclimatic certain that elements in the city due to climate conditions in May and June and September to provide comfort and convenience. In July and August under conditions of low humidity and high evaporation temperature and relative humidity range, and just in case the wind blowing in this area, providing comfort conditions even in the shade. In the cold months (about 2 or 3 months) for adjusting the temperature of the heat source must be used or the use of solar heat and solar system was disabled.

(Kasmaee climate and architecture 1999 - Article of Climatic Survey of Shiraz City - Mr. Hamed Ayali - Master of Architecture - Islamic Azad University of Shiraz Branch)
1- Hafeziyeh: Adjacent to the site is located in the southwestern part of the architecture and its totality in terms of architectural form and etc. has had an impact.

2- Library and the National Archives: In the western part of the National Library and Archives is located in the vicinity of the project site is part of a series on the topic of identity and neighborhood perspective is effective.

3- Jahan Nama Garden: Jahan Nama Garden is one of the oldest gardens in Shiraz and is near the tomb of Hafiz and it is an octagonal building, there are also two long street in the North and South and East and West Garden for access to the project site is under investigation.

4- There are also complexes such as the Faculty of Literature and Hafiz Hall Cultural Complex that help its identity.

NATURAL FEATURES OF SITE
Alive nature, low noise pollution and being in the context of a historical center - cultural education and is eventually need to be a cultural center in this complex of the reasons for this complex in this area. Other reasons for choosing this site without being a place for education and culture of ethnic minorities and the rest of the series in television history that can increase the effects of this center. In addition, a map of the site users also predicted a cultural and art center. The placement of such sites and benefit from sunlight at all during the year.

RESULT
By investigating the different climatic factors and geographical location of the city of Shiraz and also the investigating the impact of climatic conditions on the formation of other buildings, the climatic factors of architecture used in building design of Association of Visual Arts of Shiraz was more pronounced. In designing listed building from climatic conditions of region to improve the life and well-considered energy consumption is also improved. Another feature that has been considered in the design and construction are as follows.

Considering the above and visit the city map, the site with an area of 7000 square meters in the neighborhood of Hafeziyeh with a vision to the historic fabric of the city is located. Piece of land of the historic fabric of the city of Shiraz between two Adabiyat and Haft Tan streets which is located in the North East of Shiraz, this site is located on the back of Hafeziyeh with a slope of about 5 percent. This site is to the north overlooking Haft Tan and Jahan Nama Garden and the south side is overlooking Hafeziyeh. The East is complex is in the vicinity of the University Literature and the West of it Hafiz Hall and National Library are located.

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STUDY THE EFFECTS OF KNOWLEDGE MANAGEMENT ON THE MANAGEMENT OF MEDIA ORGANIZATIONS

Zahra Seyed Ali Lavasani
Master of Media Management

ABSTRACT
Today, it is obvious that the organization can succeed, if they are led by qualified decisions and the decision cannot be worthy without knowledge. Since media organizations are facing with new needs and diversity of the audience, tastes, interests and tendencies of a new audience and technology changes; therefore, knowledge management in the organization seems necessary in order to accommodate with environmental conditions and strengthening. The research method was a descriptive correlational and the study population included all employees of media organizations (radio, television, press, etc.) in Tehran city and 380 employees and managers were selected and analyzed by using available sampling method. The data collection tool is a questionnaire in this study. The data obtained were analyzed through questionnaires using SPSS software and Pearson and regression statistical tests. In general, the results showed that the use of knowledge management, knowledge preservation, knowledge transfer, knowledge creation, knowledge application has positive and significant impact on the management of media organizations. In addition, regression test results confirmed the strength of this relationship as much as the probability level of 99 percent.

Keywords: Knowledge management, knowledge preservation, management of media organizations

PROBLEM STATEMENT
Organizations are always influenced by the environment, which is called "effective factors". These factors and variables are usually less supervised. However, if the organization can identify and control the effective environmental factors and reduce the amount of their complexity, can better perpetuate its survival. Today, the management of organizations can be successful considering the circumstances and the requirements of external and internal environments and proportional to the changes (Zomorodian, 2004). It seems that the most appropriate method to prevent deterioration and continue surviving is to increase information and dissemination of knowledge between employees of different levels of organization (Alvani, 1994). Because knowledge is one of the most important and most valuable asset of any organization. Knowledge is a driving force for organizational growth. Today's era is the era of knowledge-based organizations. In order to achieve new knowledge resources, knowledge management pay attention to new theories, such as community-oriented knowledge management, which aims to achieve massive resources of customer knowledge (Retna & Tee NG, 2011).

Most experts in knowledge management believe that this is a comprehensive management concept, which is a combination of human dimensions, psychology, sociology and technology. In fact, knowledge management allows organizations to distribute ideas, documents and information. In long term, knowledge management can create a unique culture by which knowledge should be considered as a continuous task that is constantly growing and changing. But a more general definition of knowledge management raised by Snowden which is based on clear distinction between tacit and explicit knowledge and consists of identification, optimization and active management of smart investments, which is stored in the form of explicit knowledge in artifacts such as books, etc. or in the form of tacit knowledge in the minds of individuals or groups. Optimization of explicit knowledge is carried out through permanent access to knowledge artifacts and optimization of tacit knowledge is done by creating communities and groups to keep track of various knowledge (Snowden, 2000). Knowledge management is significantly effective in improving the reliability of decision-making processes and the quality of its results and is used to determine the relationships between new information, knowing the facts, learn and determine the system values. Knowledge management helps to facilitate the flow of knowledge and can lead to faster and more effective integration of customer
knowledge (Retna & Tee NG, 2011). Knowledge management also contributes to transparency in the process of integration of knowledge in other groups, such as employees (Change et al, 2010). Once customer relationship management be implemented, knowledge management program can expand current knowledge in relation to the customer (Retna & Tee NG, 2011).

Knowledge management provides tools, processes and databases to share knowledge to customers and employees. This enables organizations to realize the value of customer knowledge integration and ultimately, it is used to provide superior service to customers. Therefore, employees are more willing to share knowledge, so that they can see the value derived from it (Murry, 2006). Tsong also believes that knowledge management is a process through which organizations employ their own collected data (Tsong, 2009).

Knowledge management is a complex and dynamic issue, the success of knowledge management requires a systematic approach that considers all the factors, components and processes of knowledge management (Abtahi and Salavati, 2006). Implementation of knowledge management systems should communicate between individuals, so that they enable to think together and spend some times to share information, views and experiences that are useful for their company (MladKova, 2012). Many of these organizations believe that knowledge is their most important asset, but in practice they are less loyal to this claim. One of the main reasons for this is that organizations do not know how they refer to knowledge management, knowledge management models for this purpose are examined in this section. Various models have been shaped based on the attitude that experts have adopted in relation to knowledge management.

Knowledge management is the systematic process of searching, selecting, organizing, filtering and displaying information in a way that employees understand the specific context of improving and organization and gain a better understanding of their experiences. Knowledge management processes help organizations in problem solving, dynamic learning, strategic planning, decision making and protect intellectual property from erosion and degradation and leads to increased flexibility and increase organizational intelligence (Erabi and Mousavi, 2010). Knowledge management is a new foundation and organizational perspective that changes relationships between employees in an organization, focuses on the chain relationship between knowledge and action and continuously improve organizational efficiency. Useful knowledge is something that leads to an effective and flexible think (Toumi, 2002). To this end, it is important to identify sources of knowledge. Efficient knowledge management can achieved clear and tangible results from resources, develop a culture of knowledge sharing within the organization and solves the issues of the day. Three overall knowledge management activities include: information management, qualitative movement and human movement or human factors (Prusak, 2001).

Today, it is obvious that the organization can succeed, if they are led by qualified decisions and the decision cannot be worthy without knowledge. Since media organizations are facing with new needs and diversity of the audience, tastes, interests and tendencies of a new audience and technology changes; therefore, knowledge management in the organization seems necessary in order to accommodate with environmental conditions and strengthening.

LITERATURE BACKGROUND
Salehi (2011), in an article entitled "the importance of knowledge management in media organizations" examined the status of knowledge management in radio and improving its quality. He concluded that knowledge management has not good situation in radio and in the end gave recommendations for its improvement.

Najaf Beigi, R. (2009) in an article titled "learning organization model in the Islamic Republic of Iran Broadcasting" came to the conclusion that IRIB is away from the effective situation of a learning organization and employee performance in team learning and changing in the mental models is more satisfying than managers and other features of the level of learning efforts in two groups are the same. A practical model and practical advice in this regard is proposed In order to reduce the distance to
effective conditions and strengthen the required skills in IRIB based on the analysis results and theoretical arguments.

Hashemi (2011), in his thesis, examined the impact of implementation of knowledge management on the economic effectiveness of media (a survey in IRIB). The findings confirmed the effect of knowledge management on the economic effectiveness and this effect was not only significant in terms of development of knowledge. By comparing the results of this study and previous investigations, he found that all dimensions and variables used in these conceptual and analytical models are effective in increasing economic effectiveness.

Irandoust (2015) in a dissertation, entitled "the proposed model of knowledge management for IRIB using the administrators, professors and experts in the IRIB and universities" proposed an applicable native model to this organization. In this regard, 15 managers and professors who are teaching in the field of knowledge management in universities of IRIB, Tehran and Allameh Tabatabaei and are active to carry out projects in this area and in general, were familiar with the area, as well as managers at the IRIB who work somehow with KM, were selected by theoretical sampling method; then, using in-depth interviews and mechanisms of underlying theories, the interviews gathered and the data were analyzed in three stages including open coding, axial and selective. After analyzing the interview, 226 concepts were extracted and these concepts were divided in 73 sub-categories, 21 categories and finally 3 axial categories. With open, axial, and selective coding, three-dimensional model in knowledge management can be created in IRIB. The dimensions of this model include "centers and knowledge resources, infrastructure requirements of knowledge management and knowledge management process". The first dimension refers to the knowledge centers in IRIB that knowledge resources are the main focus of knowledge management process. Infrastructure requirements in the form of ten categories refers to the infrastructure necessary for the implementation of knowledge management in IRIB and finally, we reached a process in IRIB, which has 9 element and refers to the effectiveness of knowledge flow in the IRIB.

**METHODOLOGY**

The overall objective of this study was to investigate the role of knowledge management on the management of media organizations. The research method was a descriptive correlational and the study population included all employees of media organizations (radio, television, press, etc.) in Tehran city and 380 employees and managers were selected and analyzed by using available sampling method. The data collection tool is a questionnaire in this study. The data obtained were analyzed through questionnaires using SPSS software and Pearson and regression statistical tests.

**ANALYSIS OF THE RESEARCH FINDINGS**

The main hypothesis: It seems that implementation of knowledge management has a positive and significant effect on the management of media organizations.

Table 1: Pearson correlation coefficient

<table>
<thead>
<tr>
<th></th>
<th>management of media organizations</th>
<th>implementation of knowledge management</th>
</tr>
</thead>
<tbody>
<tr>
<td>management of media organizations</td>
<td>Pearson correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Significant level.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number</td>
<td>380</td>
</tr>
<tr>
<td>implementation of knowledge management</td>
<td>Pearson correlation</td>
<td>.765**</td>
</tr>
<tr>
<td></td>
<td>Significant level.</td>
<td></td>
</tr>
</tbody>
</table>
Pearson test was used to determine the effect of knowledge management on the management of media organizations. Since the significance level of the test is equal to 0 and less than 1% and as a result, knowledge management is effective on media organization as much as 99 percent. In addition, the amount of correlation is equal to (0.765) and is positive and this shows that the effect is direct.

**Table 2: Summary of model**

<table>
<thead>
<tr>
<th>Multiple correlation coefficient</th>
<th>Coefficient of determination</th>
<th>Adjustment factor</th>
<th>Estimation error</th>
</tr>
</thead>
<tbody>
<tr>
<td>.765*</td>
<td>.585</td>
<td>.584</td>
<td>7.33503</td>
</tr>
</tbody>
</table>

According to the table above, the coefficient of determination shows that 58% of the changes in the management of media organizations are related to the variable of knowledge management.

**Table 3: Analysis of variance**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>Average of squares</th>
<th>F-statistics</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>regression</td>
<td>30222.152</td>
<td>1</td>
<td>30222.152</td>
<td>561.723</td>
<td>.000*</td>
</tr>
<tr>
<td>Remaining</td>
<td>21413.445</td>
<td>378</td>
<td>53.803</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>51635.597</td>
<td>379</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regression test was used to evaluate the relationship between these two variables. Since the significance level of the test is equal to 0 and less than 1%, we conclude that the severity of this effect is significant as much as probability level of 99 percent.

First secondary hypothesis: It seems that knowledge creation has a positive and significant effect on the management of media organizations.

**Table 4: Pearson correlation coefficient**

<table>
<thead>
<tr>
<th>management of media organizations</th>
<th>knowledge creation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson correlation</td>
<td>1</td>
</tr>
<tr>
<td>Significant level.</td>
<td>.776**</td>
</tr>
<tr>
<td>Number</td>
<td>380</td>
</tr>
<tr>
<td>knowledge creation</td>
<td>380</td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.776**</td>
</tr>
<tr>
<td>Significant level.</td>
<td>.000</td>
</tr>
<tr>
<td>Number</td>
<td>380</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Pearson test was used to determine the effect of knowledge creation on the management of media organizations. Since the significance level of the test is equal to 0 and less than 1% and as a result, knowledge creation is effective on media organization as much as 99 percent. In addition, the amount of correlation is equal to (0.776) and is positive and this shows that the effect is direct.

**Table 5: Summary of model**

<table>
<thead>
<tr>
<th>Multiple correlation coefficient</th>
<th>Coefficient of determination</th>
<th>Adjustment factor</th>
<th>Estimation error</th>
</tr>
</thead>
<tbody>
<tr>
<td>.776*</td>
<td>.603</td>
<td>.602</td>
<td>7.17780</td>
</tr>
</tbody>
</table>

According to the table above, the coefficient of determination shows that 60% of the changes in the management of media organizations are related to the variable of knowledge creation.

**Table 6: Analysis of variance**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>Average of squares</th>
<th>F-statistics</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>regression</td>
<td>31130.301</td>
<td>1</td>
<td>31130.301</td>
<td>604.227</td>
<td>.000*</td>
</tr>
<tr>
<td>Remaining</td>
<td>20505.296</td>
<td>378</td>
<td>51.521</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>51635.597</td>
<td>379</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regression test was used to evaluate the relationship between these two variables. Since the significance level of the test is equal to 0 and less than 1%, we conclude that the severity of this effect is significant as much as probability level of 99 percent.

Second secondary hypothesis: It seems that knowledge preservation has a positive and significant effect on the management of media organizations.

**Table 7: Pearson correlation coefficient**

<table>
<thead>
<tr>
<th>management of media organizations</th>
<th>Pearson correlation</th>
<th>Significant level</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>management of media organizations</td>
<td></td>
<td>.733**</td>
<td>380</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>knowledge preservation</th>
<th>Pearson correlation</th>
<th>Significant level</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>knowledge preservation</td>
<td>.733**</td>
<td>.000</td>
<td>380</td>
</tr>
</tbody>
</table>
Pearson test was used to determine the effect of knowledge transfer on the management of media organizations. Since the significance level of the test is equal to 0 and less than 1% and as a result, knowledge transfer is effective on media organization as much as 99 percent. In addition, the amount of correlation is equal to (0.741) and is positive and this shows that the effect is direct.

**Table 8: Summary of model**

<table>
<thead>
<tr>
<th>Multiple correlation coefficient</th>
<th>Coefficient of determination</th>
<th>Adjustment factor</th>
<th>Estimation error</th>
</tr>
</thead>
<tbody>
<tr>
<td>.733*</td>
<td>.538</td>
<td>.536</td>
<td>7.74486</td>
</tr>
</tbody>
</table>

According to the table above, the coefficient of determination shows that 53% of the changes in the management of media organizations are related to the variable of knowledge transfer.

**Table 9: Analysis of variance**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>Average of squares</th>
<th>F-statistics</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>regression</td>
<td>27762.409</td>
<td>1</td>
<td>27762.409</td>
<td>462.839</td>
<td>.000*</td>
</tr>
<tr>
<td>Remaining</td>
<td>23873.189</td>
<td>378</td>
<td>59.983</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>51635.597</td>
<td>379</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regression test was used to evaluate the relationship between these two variables. Since the significance level of the test is equal to 0 and less than 1%, we conclude that the severity of this effect is significant as much as probability level of 99 percent.

Third secondary hypothesis: It seems that knowledge preservation has a positive and significant effect on the management of media organizations.

**Table 10: Pearson correlation coefficient**

<table>
<thead>
<tr>
<th>management of media organizations</th>
<th>management of media organizations</th>
<th>knowledge transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson correlation</td>
<td>1</td>
<td>.741**</td>
</tr>
<tr>
<td>Significant level.</td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>Number</td>
<td>380</td>
<td>380</td>
</tr>
<tr>
<td>knowledge transfer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson correlation</td>
<td>.741**</td>
<td>1</td>
</tr>
<tr>
<td>Significant level.</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>380</td>
<td>380</td>
</tr>
</tbody>
</table>
Pearson test was used to determine the effect of knowledge preservation on the management of media organizations. Since the significance level of the test is equal to 0 and less than 1% and as a result, knowledge preservation is effective on media organization as much as 99 percent. In addition, the amount of correlation is equal to (0.741) and is positive and this shows that the effect is direct.

**Table 11:** Summary of model

<table>
<thead>
<tr>
<th>Multiple correlation coefficient</th>
<th>Coefficient of determination</th>
<th>Adjustment factor</th>
<th>Estimation error</th>
</tr>
</thead>
<tbody>
<tr>
<td>.741*</td>
<td>.550</td>
<td>.549</td>
<td>7.64272</td>
</tr>
</tbody>
</table>

According to the table above, the coefficient of determination shows that 55% of the changes in the management of media organizations are related to the variable of knowledge preservation.

**Table 12:** Analysis of variance

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>Average of squares</th>
<th>F-statistics</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>regression</td>
<td>28387.964</td>
<td>1</td>
<td>28387.964</td>
<td>486.003</td>
<td>.000*</td>
</tr>
<tr>
<td>Remaining</td>
<td>23247.634</td>
<td>378</td>
<td>58.411</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>51635.597</td>
<td>379</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regression test was used to evaluate the relationship between these two variables. Since the significance level of the test is equal to 0 and less than 1%, we conclude that the severity of this effect is significant as much as probability level of 99 percent.

Forth secondary hypothesis: It seems that knowledge application has a positive and significant effect on the management of media organizations.

**Table 13:** Pearson correlation coefficient

<table>
<thead>
<tr>
<th>management of media organizations</th>
<th>knowledge application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson correlation</td>
<td><strong>807</strong></td>
</tr>
<tr>
<td>Significant level.</td>
<td>.000</td>
</tr>
<tr>
<td>Number</td>
<td>380</td>
</tr>
</tbody>
</table>

Pearson test was used to determine the effect of knowledge application on the management of media organizations. Since the significance level of the test is equal to 0 and less than 1% and as a result,
knowledge application is effective on media organization as much as 99 percent. In addition, the amount of correlation is equal to (0.807) and is positive and this shows that the effect is direct.

Table 14: Summary of model

<table>
<thead>
<tr>
<th>Multiple correlation coefficient</th>
<th>Coefficient of determination</th>
<th>Adjustment factor</th>
<th>Estimation error</th>
</tr>
</thead>
<tbody>
<tr>
<td>.807*</td>
<td>.651</td>
<td>.650</td>
<td>6.73139</td>
</tr>
</tbody>
</table>

According to the table above, the coefficient of determination shows that 65% of the changes in the management of media organizations are related to the variable of knowledge application.

Table 15: Analysis of variance

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>Average of squares</th>
<th>F-statistics</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>regression</td>
<td>33601.601</td>
<td>1</td>
<td>33601.601</td>
<td>741.568</td>
<td>.000*</td>
</tr>
<tr>
<td>Remaining</td>
<td>18033.996</td>
<td>378</td>
<td>45.312</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>51635.597</td>
<td>379</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regression test was used to evaluate the relationship between these two variables. Since the significance level of the test is equal to 0 and less than 1%, we conclude that the severity of this effect is significant as much as probability level of 99 percent.

CONCLUSION AND RECOMMENDATIONS

In general, the results showed that the use of knowledge management, knowledge preservation, knowledge transfer, knowledge creation, knowledge application has positive and significant impact on the management of media organizations. In addition, regression test results confirmed the strength of this relationship as much as the probability level of 99 percent. Today, the old ways of managing organizations cannot be responsive to changes in the surrounding environment and uncertainty in organizational environments has increased due to the increasing complexity and speed of developments. As a result, organizations need to have knowledge and widespread awareness of environmental factors, so that they can adapt to environmental changes. The experts pay more attention to knowledge management in order to solve the problems caused by environmental changes, new technologies and gain competitive advantage. Knowledge-based organizations must have the ability to adapt to environmental conditions and strengthen their ability to problem-solving. Each individual should be encouraged in order to collect information, so that knowledge management can be improved. All employees should be aware of the kind of knowledge that may be useful for the organization, so that they can acquire this knowledge when they face with it. Knowledge can be achieved through formal channels such as conferences, internet, newspapers, magazines and informal channels such as social gatherings, movies and other items. Knowledge-based organizations should be creative about thinking and learning. Including activities to encourage dynamic thinking and creative learning, we can point out to encourage for doing creative and risky endeavors and holding educational workshops. Employees in this department should be taught in the field of knowledge preservation and knowledge retrieval. In fact, they should be aware of the kind of knowledge they need knowledge and resources to save them. Employees need to know how to communicate with centers of knowledge and access to information from around the world. This department must maximize knowledge transfer within the organization. Rotation and continuous changes in duties is highly effective way to transfer knowledge in the organization. The preserved knowledge stored be
easily accessible for all tasks. Knowledge transfer should be considered as a professional responsibility and a part of the job. Units and projects that carry out knowledge production, should be supported.

REFERENCES
Alvani, M., (2004), today's successful organizations, learning organization and knowledge creation, Tehran, Journal of Public Administration, number 26 and 27.
Hashemi, Z. (2011) the impact of implementation of knowledge management on the economic effectivenes of media (a survey in IRIB), master's thesis, Allameh Tabatabaei University, Faculty of Accounting and Management.
MANAGEMENT OF MEDIA ORGANIZATIONS (RADIO AND TV) WITH SPECIAL EMPHASIS ON KNOWLEDGE MANAGEMENT

Zahra Dastgheyb Shirazi
MA in Social Communication, Islamic Azad University, Central Tehran Branch

ABSTRACT
It seems that the most appropriate method to prevent deterioration and continue surviving is to increase information and dissemination of knowledge between employees of different levels of organization. Because knowledge is one of the most important and most valuable asset of any organization. The aim of this study is to examine the management of media organizations (radio and TV) with special emphasis on knowledge management. The research method was a descriptive correlational and the study population included all employees of media organizations (radio, television, press, etc.) in Tehran city and 150 employees and managers were selected and analyzed by using available sampling method. The data collection tool is a questionnaire in this study. The data obtained were analyzed through questionnaires using SPSS software and Pearson and regression statistical tests. In general, the results showed that the use of knowledge management, knowledge preservation, knowledge transfer, knowledge creation, knowledge application has positive and significant impact on the management of media organizations.

Keywords: media, radio, television, knowledge management

PROBLEM STATEMENT
Steve Hulse (2001) introduced the concept of knowledge management in relation to the concepts of data, information and knowledge. He believes that the main problem in the field of knowledge management is that organizations do not know how to convert data into information and information into knowledge; therefore, many organizations remained at the level of data management and information management. Hulse argues that knowledge management is a process through which organizations gain the ability to convert data into information and information into knowledge and in addition, they can use this achieved knowledge in order to make better and more effective decisions.

Haynes (2001) argues that knowledge management is a process based on four pillars. Content: that relates to the type of knowledge (explicit or implicit), skills: achieving the skills to extract knowledge, culture: organizational culture should encourage the distribution of information, organize: organizing the existing knowledge.

Malhotra (2004) defines knowledge management as such: "Knowledge management is a process through which organizations acquire skills in the field of learning (internal knowledge) coding knowledge (external knowledge) and distribute knowledge."

Karl Wiig (2002) argues that knowledge management means creating the needed processes to identify and capture data, information and knowledge required by the organization from the internal and external environment and transform them into decisions and actions of organizations and individuals.

Organizational Knowledge Management is one of the most important success factors for companies in competitive conditions and the information age. The importance of this issue widens enough for today, so that a number of organizations measures their knowledge and this is reflected as corporate intellectual capital and used to rank between companies (Mousavi, 2005). These institutions believe that implementing knowledge management in the organization, as a part of organizational strategy, is essential (Hassanzadeh, 2006).

In today's competitive environment, organizations need to have a deeply impressive wealth of knowledge compared to the past. Being inimitable, scarcity, valuable and irreplaceable characteristics
of these knowledge assets, along with the emergence of approaches and concepts such as knowledge management, intellectual capital, intangible assets, knowledge-oriented perspective to the organization and the multitude of academic research and administrative staff, all indicate the importance of knowledge resources in organizations (Anvar and Shahaei, 2009). Davenport and Prusak (1998) believe that knowledge management is a major effort to figure out the hidden assets in the minds of people and convert this hidden treasure to organizational assets, so that a wide range of people can involve in the decision-making and access to this wealth to use it.

Therefore, the aim of this study is to examine the management of media organizations (radio and TV) with special emphasis on knowledge management.

KNOWLEDGE MANAGEMENT
"The most fundamental characteristic of smart organizations in the twenty-first century is their emphasis on knowledge and information. Unlike the past, today's organizations have advanced technology, and requires acquisition, management and exploitation of knowledge and information in order to efficiently manage and keep track of inexhaustible changes. Knowledge is a powerful tool that can create great changes in the world and the pursuit of innovation (Cheese, 1998).

"The importance of knowledge in today's complex global environment cannot be ignored. All organizations that know how to effectively acquire, distribute and manage, will be the leaders of their industry. We are moving towards an era that competitive advantage not only obtain through access to information, but more importantly it can be achieved through the creation of new knowledge (Davenport, 1997).

"Knowledge management is an interdisciplinary business that deals with all aspects of knowledge creation, encoding, multiplexing and use knowledge to enhance learning and innovation in the context of the company. Knowledge management, is dealing with the current technological tools and organizational methods, including the production of new knowledge, gain valuable knowledge from external sources, the use of this knowledge in decision making, importing knowledge in processes, products and services, information encoding in documents software and databases, facilitating the growth of knowledge, knowledge transfer to other parts of the organization and ultimately measure knowledge assets and impact of knowledge management (Leonard, 1990).

There is no detailed and comprehensive definition regarding the knowledge management. Some experts defined knowledge management as the application of created knowledge (Quintas et al, 1997), while most experts in knowledge management believe that this is a comprehensive management concept, which is a combination of human dimensions, psychology, sociology and technology. In fact, knowledge management allows organizations to distribute ideas, documents and information. In long term, knowledge management can create a unique culture by which knowledge should be considered as a continuous task that is constantly growing and changing. But a more general definition of knowledge management raised by Snowden which is based on clear distinction between tacit and explicit knowledge and consists of identification, optimization and active management of smart investments, which is stored in the form of explicit knowledge in artifacts such as books, etc. or in the form of tacit knowledge in the minds of individuals or groups. Optimization of explicit knowledge is carried out through permanent access to knowledge artifacts and optimization of tacit knowledge is done by creating communities and groups to keep track of various knowledge (Snowden, 2000).

Knowledge management is a new foundation and organizational perspective that changes relationships between employees in an organization, focuses on the chain relationship between knowledge and action and continuously improve organizational efficiency. Useful knowledge is something that leads to an effective and flexible think (Toumi, 2002). To this end, it is important to identify sources of knowledge. Efficient knowledge management can achieved clear and tangible results from resources, develop a culture of knowledge sharing within the organization and solves the issues of the day. Three overall knowledge management activities include: information management, qualitative movement and human movement or human factors (Prusak, 2001).
Knowledge management is significantly effective in improving the reliability of decision-making processes and the quality of its results and is used to determine the relationships between new information, knowing the facts, learn and determine the system values. Knowledge management helps to facilitate the flow of knowledge and can lead to faster and more effective integration of customer knowledge (Retna & Tee NG, 2011). Knowledge management also contributes to transparency in the process of integration of knowledge in other groups, such as employees (Change et al, 2010). Once customer relationship management be implemented, knowledge management program can expand current knowledge in relation to the customer (Retna & Tee NG, 2011).

Knowledge management provides tools, processes and databases to share knowledge to customers and employees. This enables organizations to realize the value of customer knowledge integration and ultimately, it is used to provide superior service to customers. Therefore, employees are more willing to share knowledge, so that they can see the value derived from it (Murry, 2006). Tsong also believes that knowledge management is a process through which organizations employ their own collected data (Tsong, 2009).

THE GENERAL MODEL FOR THE STRUCTURE OF KNOWLEDGE MANAGEMENT
This model offers a broad view of knowledge management systems and reflects the high dependence of these systems on the interaction between people. According to this model, knowledge management systems are formed by the organization's strategy and therefore how to convert these strategies will facilitate organizational knowledge resources. Users can add their knowledge to the system and in turn, their knowledge be strengthened. Other financial systems and human resources are derived. In addition, the system provides the necessary context for access to this important knowledge and accordingly, access to technical systems is also possible. In such systems, knowledge management, content and information into the system are examined in order to ensure their accuracy, security and access. Therefore, the final application and output of the knowledge management systems is efficient and effective support from the knowledge group (Debowski, 2006). This group consists of end users of priorities and overall knowledge of the organization. More important than anything is that knowledge management systems regardless of their organizational status, creates a close relationship between them. The following figure shows the general structure of the knowledge management systems.

KNOWLEDGE MANAGEMENT PARADIGMS
Due to the interdisciplinary field of knowledge management, the following research and theories reflect two basic paradigms:
1. Technological

2. Social – organizational

The two paradigms are also known as organic and technical - computerized. Organic paradigm focuses on non-computer science disciplines and group dynamics in the environment and raises the importance of human resources organization. In this regard, the interaction between people, business structure, organizational processes and organizational culture are the most important factors. All these factors emphasize the requirement to understand the background and an environment that knowledge management systems are in it. Technical - computerized paradigms deal with the predefined models and assumptions regarding the software and hardware issues. This approach reflects the views of Malhotra (1998) about knowledge. He suggests a static, rational and non-contextual view about the knowledge, which is detected on the basis of mathematical and exploration models. In this approach, there are reference solutions for organizational problems. In addition, the technical - computerized paradigm represents an approach of knowledge that is suitable for the institutionalization of best practices for predictable matters. On the contrary, the organic paradigm (ecological knowledge) represents a dynamic approach that has been associated with diversity and shows a continuous reliability. In such an environment, it must be verified for compliance on the maximization rather than optimization (Hazlt et al., 2005).

**RESEARCH BACKGROUND**

Asefzadeh and Fouzounkhah in an article entitled "Knowledge Management: study the factors involved in climbing the ladder of knowledge utilization and division concepts for future research", came to the conclusion that operational measures include the transfer of knowledge, recognition, referral, trying to penetrate and applications that take advantage of the knowledge transfer phase, which is the most critical phase and 30% of the transmission fail to climb the stairs, the study recommends that all universities and research centers that try to prepare for the application and utilization of research results, should invest in skills acquisition and expertise (Asefzadeh and Fouzounkhah, 2004).

Salehi (2011), in an article entitled "the importance of knowledge management in media organizations" examined the status of knowledge management in radio and improving its quality. He concluded that knowledge management has not good situation in radio and in the end gave recommendations for its improvement.

Najaf Beigi, R. (2009) in an article titled "learning organization model in the Islamic Republic of Iran Broadcasting" came to the conclusion that IRIB is away from the effective situation of a learning organization and employee performance in team learning and changing in the mental models is more satisfying than managers and other features of the level of learning efforts in two groups are the same. A practical model and practical advice in this regard is proposed In order to reduce the distance to effective conditions and strengthen the required skills in IRIB based on the analysis results and theoretical arguments.

Hashemi (2011), in his thesis, examined the impact of implementation of knowledge management on the economic effectiveness of media (a survey in IRIB). The findings confirmed the effect of knowledge management on the economic effectiveness and this effect was not only significant in terms of development of knowledge. By comparing the results of this study and previous investigations, he found that all dimensions and variables used in these conceptual and analytical models are effective in increasing economic effectiveness.

Irandoust (2015) in a dissertation, entitled "the proposed model of knowledge management for IRIB using the administrators, professors and experts in the IRIB and universities" proposed an applicable native model to this organization. In this regard, 15 managers and professors who are teaching in the field of knowledge management in universities of IRIB, Tehran and Allameh Tabatabaei and are active to carry out projects in this area and in general, were familiar with the area, as well as managers at the IRIB who work somehow with KM, were selected by theoretical sampling method; then, using
in-depth interviews and mechanisms of underlying theories, the interviews gathered and the data were analyzed in three stages including open coding, axial and selective. After analyzing the interview, 226 concepts were extracted and these concepts were divided in 73 sub-categories, 21 categories and finally 3 axial categories. With open, axial, and selective coding, three-dimensional model in knowledge management can be created in IRIB. The dimensions of this model include "centers and knowledge resources, infrastructure requirements of knowledge management and knowledge management process". The first dimension refers to the knowledge centers in IRIB that knowledge resources are the main focus of knowledge management process. Infrastructure requirements in the form of ten categories refers to the infrastructure necessary for the implementation of knowledge management in IRIB and finally, we reached a process in IRIB, which has 9 element and refers to the effectiveness of knowledge flow in the IRIB.

**METHODOLOGY**

The whole objective of this study was to study the role of knowledge management on managing the media organizations. The methodology was descriptive correlational and the statistical population consist of all the staff who are working in the media organizations (radio, television, press, etc.) in Tehran city and 150 employees and managers were chosen and studies by using available sampling method. The data collection tool is a questionnaire in this study. The data obtained were analyzed through questionnaires using SPSS software and Pearson test.

**ANALYSIS OF THE RESEARCH FINDINGS**

The main hypothesis: It seems that implementation of knowledge management has a positive and significant effect on the management of media organizations.

Table 1: Pearson correlation coefficient

<table>
<thead>
<tr>
<th></th>
<th>management of media organizations</th>
<th>implementation of knowledge management</th>
</tr>
</thead>
<tbody>
<tr>
<td>management of media</td>
<td>Pearson correlation: 1</td>
<td>.825**</td>
</tr>
<tr>
<td>organizations</td>
<td>Significant level:</td>
<td>.000</td>
</tr>
<tr>
<td>Number</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>implementation of</td>
<td>Pearson correlation: .825**</td>
<td>1</td>
</tr>
<tr>
<td>knowledge management</td>
<td>Significant level: .000</td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>150</td>
<td>150</td>
</tr>
</tbody>
</table>

Pearson test was used to determine the effect of knowledge management on the management of media organizations. Since the significance level of the test is equal to 0 and less than 1% and as a result, knowledge management is effective on media organization as much as 99 percent. In addition, the amount of correlation is equal to (0.825) and is positive and this shows that the effect is direct. First secondary hypothesis: It seems that knowledge creation has a positive and significant effect on the management of media organizations.

Table 2: Pearson correlation coefficient

<table>
<thead>
<tr>
<th></th>
<th>management of media organizations</th>
<th>knowledge creation</th>
</tr>
</thead>
<tbody>
<tr>
<td>management of media</td>
<td>Pearson correlation: 1</td>
<td>.786**</td>
</tr>
<tr>
<td>organizations</td>
<td>Significant level:</td>
<td>.000</td>
</tr>
<tr>
<td>Number</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>knowledge creation</td>
<td>Pearson correlation: .786**</td>
<td>1</td>
</tr>
<tr>
<td>Significant level:</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>150</td>
<td>150</td>
</tr>
</tbody>
</table>
Pearson test was used to determine the effect of knowledge creation on the management of media organizations. Since the significance level of the test is equal to 0 and less than 1% and as a result, knowledge creation is effective on media organization as much as 99 percent. In addition, the amount of correlation is equal to (0.786) and is positive and this shows that the effect is direct.

Second secondary hypothesis: It seems that knowledge preservation has a positive and significant effect on the management of media organizations.

**Table 3: Pearson correlation coefficient**

<table>
<thead>
<tr>
<th>management of media organizations</th>
<th>management of media organizations</th>
<th>knowledge preservation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson correlation</td>
<td>1</td>
<td>.832**</td>
</tr>
<tr>
<td>Significant level.</td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>Number</td>
<td>150</td>
<td>150</td>
</tr>
</tbody>
</table>

Pearson test was used to determine the effect of knowledge transfer on the management of media organizations. Since the significance level of the test is equal to 0 and less than 1% and as a result, knowledge transfer is effective on media organization as much as 99 percent. In addition, the amount of correlation is equal to (0.832) and is positive and this shows that the effect is direct.

Third secondary hypothesis: It seems that knowledge preservation has a positive and significant effect on the management of media organizations.

**Table 4: Pearson correlation coefficient**

<table>
<thead>
<tr>
<th>management of media organizations</th>
<th>management of media organizations</th>
<th>knowledge transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson correlation</td>
<td>1</td>
<td>.745**</td>
</tr>
<tr>
<td>Significant level.</td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>Number</td>
<td>150</td>
<td>150</td>
</tr>
</tbody>
</table>

Pearson test was used to determine the effect of knowledge preservation on the management of media organizations. Since the significance level of the test is equal to 0 and less than 1% and as a result, knowledge preservation is effective on media organization as much as 99 percent. In addition, the amount of correlation is equal to (0.745) and is positive and this shows that the effect is direct.

Forth secondary hypothesis: It seems that knowledge application has a positive and significant effect on the management of media organizations.
Pearson test was used to determine the effect of knowledge application on the management of media organizations. Since the significance level of the test is equal to 0 and less than 1% and as a result, knowledge application is effective on media organization as much as 99 percent. In addition, the amount of correlation is equal to (0.885) and is positive and this shows that the effect is direct.

### CONCLUSION AND RECOMMENDATIONS

In general, the results showed that the use of knowledge management impact on the management of media organizations. Today, the old ways of managing organizations cannot be responsive to changes in the surrounding environment and uncertainty in organizational environments has increased due to the increasing complexity and speed of developments.

The main purpose of using knowledge management in a variety of institutions is to adapt quickly to the changing environment in order to improve performance. As a result, knowledge management refers to the process of the creation, dissemination and application of knowledge. In other words, the ultimate goal of knowledge management includes knowledge sharing among employees in order to enhance added value in the organization. One of the objectives of knowledge management is to communicate between people who know, so that individual knowledge gradually becomes organizational knowledge. Function or purpose of knowledge management is to promote knowledge among employees. For this purpose, it is necessary to be taught information technology and the major influence in this process should be understood. In fact, the ultimate goal of knowledge management is to increase the organizational intelligence.

In knowledge-based organizations, knowledge is simply transferred to the entire staff. When employees access to corporate knowledge, they can recognize their environment and make it meaningful. They can run things in new and better ways to discover, to work together, to make up for lack of knowledge, boost productivity, customer satisfaction and ultimately can achieve effective competition. Organizations that are trying to generate knowledge through research and development or learning processes are superior than organizations that are working based on the knowledge of others. Knowledge management pays attention to issues such as organizational adaptation, survival and competence in face of increasingly environmental changes. In fact, knowledge management seeks synergistic combination of information processing, information technology and creative ability of human beings.

So, to improve each indicator of knowledge management, the following suggestions are recommended:

- Strengthen the potential scientific and value in people; because when people have more knowledge, their resistance to change will be less. Also hire qualified and skilled experts, to provide expertise in the production and delivery of services and use key customers; which means that customers are who always special services, make a clear distinction in the use of knowledge based on strengths and weaknesses. User-friendly working conditions, the use of of knowledge while working; because the employees can acquire the knowledge in a position where they can apply that knowledge.
immediately. Encourage people to use the knowledge and the understanding of the norms and values of the organization's staff.

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TO DETERMINE THE EFFECTIVENESS OF COGNITIVE BEHAVIORAL GROUP THERAPY ON THE RATE OF CHANGE IN DEPRESSION AND MENTAL HEALTH OF HIGH SCHOOL STUDENTS

Maryam Mohammadi Toraghi
Department of Psychology, Kish International Branch, Islamic Azad University, Kish Island, Iran

Farhad Jomehri
PhD of Psychology, Department of Psychology, Kish International Branch, Islamic Azad University, Kish Island, Iran

Afshin Tayebi
Assistant Professor, Faculty Islamic Azad University of Karaj

ABSTRACT
This study aimed to determine the effectiveness of cognitive behavioral group therapy on depression and the rate of change in mental health of high school students. The research model of this study is quasi-experimental and is applied research due to the objective component. A research project was for two groups of experimental group and control group, with pretest and posttest. The population of this study included all high school students (male and female) in Tehran. Given that the study population was high school students, the sample of this study consisted of 30 high school students who were accidentally classified into the two groups (15 in experimental group, 15 in control group). A tool that is used in this study is Beck Depression Inventory (B.D.I) and mental health of Keys. Information collected were prepared for statistical calculations; after gathering and removing the defects at the end of it, all data collected were entered into SPSS Inferential statistics (for the difference between the experimental group and the control group) test multivariate analysis of covariance (ANCOVA) was used, the results indicate that all four hypotheses were accepted.

Keywords: cognitive therapy, depression, mental health, high school students

INTRODUCTION
Adolescence is a period of change that constitutes usually ages 13 to 19 and is undoubtedly one of the most important periods of the individual. In this age, changes are concerned in the adolescent growth and development of relations between different aspects. These changes include: attachment, independence (change the relationship with parents, siblings), intimacy (formation of close personal relationships outside the family), development (skills and roles required for life), identity (sense of composition and role of emotions children with demands and benefits of adults). The events cause many mental disorders including depression (Safarpur, 2006). Given that the prevalence of depression among children is on the rise, this study aimed to investigate the usefulness of cognitive therapy on depression and mental health of high school students. The results of this study may help experts to identify therapeutic strategies in the treatment of depression and mental health.

DEFINING MENTAL HEALTH
So far, various definitions of "mental health" provided that all the characters have emphasized the importance of integrity. Goldstein knows the mental health member balance between and environment to achieve self-actualization. Chahn, (1991) interprets the mental health status of psychological maturity that means the maximum effectiveness and satisfaction derived from the individual and social opposition including emotions and positive feedback about themselves and others. (Ganjii, 2005) In recent years, the Canadian Association of Mental Health has defined "mental health" in three parts:
THE FIRST PART: SELF-FEEDBACK INCLUDES:

PART II: FEEDBACK ON OTHERS INCLUDES:
1. Interest on long and intimate friendship.
2. A sense of belonging to a group.
3. Human and material responsibility to the environment.

PART III: FEEDBACK ON LIFE INCLUDES:
1. Bear the responsibilities.
2. Tasteful facilities and interests development.
3. Ability to personal decisions.


Chahn has mentioned five patterns of behavior in relation to mental health:

1. Sense of accountability: who has mental health, is sensitive to the needs of others and to satisfy them and makes them comfortable as well.
2. Self-confidence: who has mental health, has self-confidence and ensures his ability to process cross-sectional problems. Thus, obstacles, compromised not affect his morale.
3. Goal orientation: refers to a person who possesses a clear concept of the ideal of life and hence, will lead all the force and creativity in order to achieve these goals.
4. Personal values: such a person in his life has a particular philosophy based on opinions, beliefs and goals of prosperity and happiness to themselves or those around him to take a lead and to increase social participation.
5. Individuality and Oneness: a person who has mental health does not know himself distinct from the others, and is trying to develop the attitudes and their behavior patterns in a way that is neither blind conformity and unconsciously demands and desires of others and not by others is rejected and abandoned.

DEFINING DEPRESSION
1. Depression is an emotional state with sorrow that the person feels the guilt or sin with fear and emptiness. (Haidari, 2002). The first and major character of depression is sadness that may fluctuate from a mild to frustration, despair and severe distress. The mood change is relatively constant and is continuing for days, weeks, months or years. Depression as a symptom of many physical and mental diseases may be a state of grief and mourning but the difference detector of depression is such that it is inappropriate and depression is a very severe and long lasting disease. Depression in these patients affects all aspects of emotion and thought, behavior the person, personality and interests. Apart from that there's always anxiety and depression, in which the patient complained of discomfort, the motor restlessness is expressed in the form of physical discomfort or lack of appetite and sleep disorders and the reactions were mild and acute depression and confusion could be divided into three major categories.

TYPES OF DEPRESSION
- Depression is a reactive created as a result of the emergence of adverse situations.
- Secondary depression emerges as a result of some physical ailments or partial lack of experience.
- The third type of depression cannot be diagnosed with the internal origin where there is no apparent cause will be favorable answer to physical therapy.
- A fourth type can also be added to the three types of depression, and it is pessimism that the patient invariably sees everything around the dark adverse events and is always waiting for bad news and events. The most notable hidden depressive symptoms in children have been reported as: behaviors such as delinquency, hypochondriasis, irritability and hyperactivity, bowel dysfunction, fear, truancy and school problems (Renshaw, 1974, Carlson and Cantwell, 1983, Sarason and Sarson, 1987, quoted from Aali, 2008).

GROUP COUNSELING WITH COGNITIVE APPROACH
In general, the main emphasis in Counseling Psychology is within individual skills in order to cope with the pressures of life. Counseling Psychology use different methods to treat their clients as diverse as psychotherapy, workshops to teach skills like assertiveness, self-expression, social skills and utilize them in order to objectify the evaluation of their psychological aptitude tests, attitudes, interests, personality and so on (Guregil, 2001). In the process of consultation the person may be treated due to the type of individual, group, or with his family. In the case of children and adolescents have many effects and group counseling can help them to better understand and prevent internal conflict and to strengthen positive interpersonal relationships. In understanding and solving the problems of children, consultants face with serious problems. The adult common way to communicate with others is used for children. They may cut off talk with a counselor or his friend by screaming, refuse to carry out the activities that the adviser recommends or to participate very lively, active and with high sensitivity in group activities. In group therapy, teenagers find that others have problems similar to their problems and obstacles are reduced in the way of expressing inner feelings. The teenager finds a sense of belonging to the group and interpersonal skills growing in dealing with real life. Through trial and error, teenager learns appropriate ways to communicate with others. After a while, the group is seen as a model for the society for Teen. Because many teenagers are required to communicate with peers, group counseling is very effective to solve their problems, because in groups that engages young people is created in the right environment in order to plan their problems. Children in the support group discover that they are not only teenagers that have such problems; other teenagers also have the like. In organized group consultation, many young people are discovering that they can get help from others to solve their problems and participate in solving other problems. Thus, they experience effectiveness, and self-value and realize that they are unique and wholeheartedly accepted by their peers in the group. According to Corder, Whiteside and Heizlip (1981) youth will learn in the group consultation process: 1) express their feelings; 2) assume responsibility for their words and deeds, 3) ask others their opinion honestly; 4) group is considered as a big family, and 5) are able to help others and be involved in their lives.

COGNITIVE THERAPY, PATTERN AND EFFICIENCY
Structure: Cognitive therapy is a method of psychotherapy based on the theory of emotional disorders (Beck, 1967), experimental and clinical studies (coax and Becky, in 1987, King Bern Black, 1988), as well as certain therapeutic techniques. This organized form of psychotherapy treatment is to reduce symptoms and help the person to learn effective ways to deal with problems that are causing discomfort he designed. Features of treatment with this method are all efforts that are focused on solving the problem.

Cognitive therapy is working on a complex set of problems psychologically and a situation that may involve upsetting the person. The term "cognitive therapy" is used because the therapeutic techniques are used in order to change one's mistakes and cognitive biases among those who try to assess individual situations and psychological pressure, his views about themselves, the world and the next and the beliefs and attitude are modified that appears to increase vulnerability to emotional disorders. As noted above, this treatment approach is based on historical contexts, theoretical and empirical.
Application: the cognitive strategies are used to help clients to solve any problems, such as malfeasance in connection with the thought patterns (Perstoniz, Bronze, 1986), generalized anxiety (Lindsey et al., 1987), addiction to alcohol (Nathan, 1985), extreme emotional distress (McAdam, 1986), psychopathic behavior (Kazdin et al., 1987), drunk driving (Segal and Moore, 1985), negative body image (far Kane and chorus, 1985) behavioral responses of individual coronary arteries (Razi et al., 1986, 1987), anger (Diffen buffer et al.), bulimia (Qyrberton et al., 1986), attention deficit disorder (Berlon et al., 1986).

COGNITIVE BEHAVIORAL COGNITIVE FEATURES
It is organized, collaborative, voluntary and limited in time. The emphasis will be on the current situation or the present and placed full attention the role of belief or knowledge incorrect and inconsistent. This treatment is based on the fundamental premise that thoughts, emotions and actions are linked together and cognitive distortions are found in the conclusions and can be eliminated through their learning this way, we had to explain characteristics (Mehryar, 1994).

Organized: each meeting and all the meetings are of the high degree of organization and discipline. The meetings are organized such that the person’s estimation is at the center of attention. Then, the sick behavior is at the center of psychologist’s attention and finally recognizing automatic thoughts or assumptions whether as a substrate, they are evaluated as a treatment goal. The person is expected to have a home assignment planning that must be done regularly participate in meetings away. These tasks in turn-based self-help reflect primary emphasis on assessment, then finally the recognition of individual behavior.

Individual participation: in cognitive approach, the psychologist and the individual both participate in the initial assessment and treatment program flow measuring efficiency. Cognitive psychologist tries to make person to participate at all stages, including the subject matter of any meeting or view the actual notes by individual behaviors, arranging activities and cognitive behavioral tasks to the stage of putting the assumption that the company actively.

Socrates: It insists on questioning of individual and in this way, the person will help to discover and express new content. It will try to speak the language or the interpretation or assumptions about the meaning of individual speech conversely refused to personally help him to discover the meaning and the behavior and utterances success. The cognitive approach is usually a wise Socratic method instead of questioning and discussion for questioning and for his opposition defied belief.

Experimental or optional: training a person to think clearly and his belief will be tested experimentally, is one of the main objectives of the cognitive approach. Often the person is encouraged to use his conduct testing of a belief or faith.

The emphasis on the present: the individual and psychologist attention is focused often on issues and topics that have already or are raised here and now to the individual. The emphasis on the past generally is not necessary for the purpose of changing individual symptoms and required skills of the individual, through an experimental approach (Mehryar, 1994).

In terms of time: the duration is 20 sessions of cognitive-behavioral training. Usually begins with two sessions per week and later reduced to one session per week.

Emphasis on knowledge: the cognitive approach puts the emphasis on analysis and evaluation of one's thoughts instead of his emotions, but emotions are typical1111111ally cognitive, and psychologists are of interest, but they are treated them as if their existence and durability depend on ideas and preceding beliefs. Cognitive Psychology in dealing with clients who with negative emotions rather than the expressions of sympathy and support not only stressed, tries to help them to get away from these beliefs related to negative emotions and assess if they are realistic and unsentimental.

Cognitive distortions are a result of learning: In general, it is assumed that people based on their previous experiences achieve thought and specific belief patterns. Obviously, if we talk quite carefully, it is not necessary to accept the premise. What is necessary is the content or process.
Conducted. During this trial period, namely, therapy sessions depression scale and also had the lowest scores on a scale. Then the total students of secondary schools, 30 of those on high school students and was conducted in high school were selected randomly, and technical assistance list.

2. Educational aspect: the educational aspect involves explaining Therian cognitive schemas and logic's wrong. Psychologists must explain to the assumptions set together and will put to the test during their treatment. Cognitive therapy involves a complete description of the relationship between depression and anxiety with thinking, emotions and behavior, as well as the philosophy of all aspects of the treatment. This explanation contradicts the analysis-oriented psychotherapy that requires very little explanation.

1. Cognitive techniques: methodology includes a four-step process: 1. disclose non-adaptive automatic thoughts. 2. Testing automatic thoughts hidden assumptions. 3. Identify non-adaptive. 4. Testing the validity of hypotheses. Automatic recognition includes thoughts between external events and specific emotional reactions toward them. An example of automatic thoughts is the belief that when others see how clumsy I am playing, everyone will laugh at me. Thought that crosses anyone's mind that bowling has been invited and has shown a negative reaction. Automatic thoughts are also called cognitive-called transformation. Each pathologic profiles psychotic disorder, especially cognitive thinking is changing by the day dedicated to recognizing the template, if known.

2. Behavioral techniques: are cognitive techniques or behavioral techniques. Behavioral techniques are used for testing non-adaptive cognitive impairment or improperly. The overall goal is to help the person to understand the false assumptions of their cognitive and learning new techniques to cope with its consequences.

Role playing and recreational methods can be named between behavioral techniques used for planning activities, domination and determine cognitive tasks step by step exercises, self-reliance training (Kaplan, Inc. of Pourafkari, 2000).

Behavioral techniques: behavioral techniques can often be used in treatment because the problems that can be treated with these techniques may be a very uncomfortable one and prevent the development of treatments. Given these problems, it is vital to examine Group Cognitive Therapy on Depression and the mental health of high school students.

METHODOLOGY
This study used a quasi-experimental research model and according to the purpose is an applied research. A research project consists two groups and the control group was accompanied by pretest and posttest. The population of this study included all high school students (male and female) in Tehran. Given that the study population was high school students, the sample consisted of 30 students in high school that were randomly divided into two groups (15 in experimental group, 15 in control group). A tool that is used in this study includes Beck Depression Inventory (B.D.I) and mental health of Keys. In the first step by visiting the Department of Education in Tehran, "the theoretical and technical assistance" list of names was prepared for girls and boys high school. Then, a girl and a boy high school were selected randomly, and Beck depression with mental health questionnaire of Keys on high school students and was conducted (n = 213 high school girls and 114 people in high school), then the total students of secondary schools, 30 of those had acquired the highest scores on the depression scale and also had the lowest scores on a scale mental health were selected for the study. They then randomly divided into two groups: control and experimental groups. Before starting group therapy sessions, the pre-test was conducted for both groups. Then the experimental involvement, namely, the cognitive group counseling in collaboration with the participants in the intervention conducted. During this trial period, the control group did not receive any intervention. In this case, the data collected were prepared for statistical calculations; after gathering the questionnaires and...
removing the defects at the end of it, all data collected were entered into SPSS Inferential statistics (for the difference between the experimental group and the control group) the multivariate analysis of covariance (ANCOVA) was used.

**DATA ANALYSIS:**

**DESCRIPTIVE STATISTICS**

In boys, frequency in the experimental group (n = 9, 64.3 percent) is more than the control group (5 patients, 35.7 percent). Frequency in girls in the control group (n = 10, 62.5 percent) is more than experimental group (n = 6, 37.5 percent), and also in total 14 patients (46.7 percent) are in the group of boys, and 16 people (53.3 percent) are in the group of girls.

**INFERENTIAL STATISTICS**

First hypothesis: cognitive behavioral group therapy has a significant impact on reducing depression among high school students.

Table 1. variable statistics in both control and experimental groups before and after intervention

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Number</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Mean SD</th>
<th>Mean SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>Experimental</td>
<td>15</td>
<td>5/74 25/40</td>
<td>6/56 31/27</td>
<td>40/25 74/5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>15</td>
<td>4/74 29/93</td>
<td>5/68 31/20</td>
<td>93/29 74/4</td>
<td></td>
</tr>
</tbody>
</table>

As can be seen, the mean of studied variables (depression) in the experimental group had a significant reduction in post-test but in the post-test in control group that there is a reduction, but this reduction does not seem much that needs to be examined.

For using analysis of covariance (ANCOVA) must be adhered to its assumption given that the pre-test and post-test scores are normalized to study the homogeneity of variances using Levin explains:

<table>
<thead>
<tr>
<th>Degrees of freedom 1</th>
<th>Degrees of freedom 2</th>
<th>sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>38</td>
<td>0/337</td>
</tr>
<tr>
<td>875/117</td>
<td>323/191</td>
<td>F</td>
</tr>
</tbody>
</table>

Table 3 and Figure 1 show the results of analysis of covariance (ANCOVA) to substantiate the research hypothesis (cognitive behavioral group therapy has a significant impact on reducing depression among high school students.).

Table 3. ANOVA test results for the hypothesis
The results of analysis of covariance (ANCOVA) revealed that cognitive behavioral group therapy used in a study of high school students in the pre-test and post-test sizes 0/814 and 0/577 caused a reduction in depression in the experimental group effect size sample group of students (0/05 > p, 117/875 = F) and (0/05 > p, 36/800 = F). Pre-test and post-test charts are shown for both control and experimental groups below.

Transactional Analysis group counseling approach used by the sample group is to increase self-esteem in students.

The second hypothesis: cognitive behavioral group therapy has a significant impact on the mental health of high school students.

Table 4. Variable statistics in both control and experimental groups before and after intervention

<table>
<thead>
<tr>
<th>Variable</th>
<th>Post-test</th>
<th>Pre-test</th>
<th>Number</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Mental health</td>
<td>4/79</td>
<td>35/87</td>
<td>4/74</td>
<td>29/93</td>
</tr>
<tr>
<td>Mental health</td>
<td>4/17</td>
<td>29/33</td>
<td>4/79</td>
<td>29/80</td>
</tr>
</tbody>
</table>

As can be seen variables investigated (Mental health) experimental group has increased significantly in the post-test but in the control group in the post-test not only did not increase, but decreased at trace levels that should be examined.

To test this hypothesis, the inferential analysis of covariance (ANCOVA) was used for the comparison of the effect Pre-test. Mental health scores at pre-test and post-test is normal and Levin to check the homogeneity of variaces test results are shown in Table 8-4.

Table 5 Levine test to check the homogeneity of variances
Table 6 and Figure 2 present the results of analysis of covariance (ANCOVA) to substantiate the research hypothesis (cognitive behavioral group therapy has a significant impact on the mental health of high school students).

### Table 6. ANOVA results for the hypothesis

<table>
<thead>
<tr>
<th>Effect size</th>
<th>Sig. level</th>
<th>F</th>
<th>Mean square</th>
<th>Degree of freedom</th>
<th>Sum of squares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>0/0001</td>
<td>132/465</td>
<td>469/392</td>
<td>1</td>
<td>469/392</td>
</tr>
<tr>
<td>Group</td>
<td>0/0001</td>
<td>86/940</td>
<td>308/072</td>
<td>1</td>
<td>308/072</td>
</tr>
<tr>
<td>Error</td>
<td>3/544</td>
<td>27</td>
<td>95/675</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>30</td>
<td>32768/000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of analysis of covariance (ANCOVA) revealed that cognitive behavioral group therapy used in a study of high school students in the pre-test and after the test, the size of 0/831 and 0/763 increased in the experimental group, and the effect size of mental health increased in the sample group (0/05 > p, 132/465 = F) and (0/05 > p, 86/940 = F).

Chart of pretest and post-test is shown for both control and experimental groups below.

Cognitive therapy is used to increase students' mental health in the sample.

**Third hypothesis: the reduction of depression has a significant difference between boys and girls.**

### Table 7. statistics depression scores in the two groups of boys and girls after intervention

<table>
<thead>
<tr>
<th>Error of standard</th>
<th>SD</th>
<th>Mean</th>
<th>Number</th>
<th>Gender</th>
</tr>
</thead>
</table>

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As can be seen, variables studied (depression) in girls was lower than boys, which should be examined. To test this hypothesis in some independent t test was used for comparison of mean:

<table>
<thead>
<tr>
<th></th>
<th>Error of SD</th>
<th>Mean difference</th>
<th>Sig.</th>
<th>Degree of freedom</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top</td>
<td>1/31294</td>
<td>3/10731</td>
<td>3/600</td>
<td>0/267</td>
<td>13</td>
</tr>
<tr>
<td>Low</td>
<td>3/11294</td>
<td>0/2794</td>
<td>0/32</td>
<td>0/267</td>
<td>1/159</td>
</tr>
</tbody>
</table>

As can be seen in the table, although the rate of decline depression among girls is more than boys, but among girls (5/53 = SD and 29/200 = M) and boys (5/97 = SD and 32/80 = M) there was no significant difference in decreasing depression (-1/159 = t and 0/05> P).

**Fourth hypothesis: the increase of mental health has a significant difference between boys and girls.**

<table>
<thead>
<tr>
<th></th>
<th>Error of SD</th>
<th>SD</th>
<th>Mean</th>
<th>Number</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top</td>
<td>1/96</td>
<td>4/39</td>
<td>26/60</td>
<td>5</td>
<td>Boys</td>
</tr>
<tr>
<td>Low</td>
<td>1/11</td>
<td>3/50</td>
<td>30/70</td>
<td>10</td>
<td>Girls</td>
</tr>
</tbody>
</table>

As can be seen, variables studied (mental health) in girls was higher than boys, which should be examined. To test the hypothesis in this part of the independent t test was used to compare mean:

<table>
<thead>
<tr>
<th></th>
<th>Error of SD</th>
<th>Mean difference</th>
<th>Sig.</th>
<th>Degree of freedom</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top</td>
<td>0/39144</td>
<td>2/07902</td>
<td>4/100</td>
<td>0/070</td>
<td>13</td>
</tr>
<tr>
<td>Low</td>
<td>8/59144</td>
<td>0/2794</td>
<td>0/32</td>
<td>0/267</td>
<td>1/972</td>
</tr>
</tbody>
</table>

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As can be seen in the table, although the girls’ mental health was more than boys, but there is no significant difference between and boys (-3/50 = SD and -30/70 = M) and boys (-4/39 = SD and 60/26 = M) considering mental health (-1/972 = t and 0/05> P).

DISCUSSION AND CONCLUSION
To interpret the results, first the data were described and results of the test research hypotheses were interpreted. Study descriptive information on relevant demographic characteristics of the samples indicate that distribution of boys and girls is normal and almost they have the same proportion of each study, but this is not the same than in the control and experimental groups so that girls were more than boys in the control group and boys were more than girls in the experimental group.

First hypothesis: cognitive behavioral group therapy has a significant impact on reducing depression among high school students.

The results of this study are in conjunction with the first hypothesis of Piekel, 2007 and Guidi 2010. It is shown that this method was effective in treating depression and its effects are comparable with antidepressants. The research showed that cognitive therapy on depression is more effective than drug therapy.

The second hypothesis: cognitive behavioral group therapy has a significant impact on the mental health of high school students.

The results of this study are in conjunction with the second hypothesis of the research of Vahedi et al (2003). In this study, it was shown that most students are suffering from mental disorders. The most common psychopathology studied populations were, respectively, aggression, depression, anxiety, obsessive-compulsive disorder, somatization disorder, phobia, psychosis and paranoia.

Third hypothesis: the reduction of depression has a significant difference between boys and girls.

The results in relation to the third hypothesis are consistent with the research that Rajabi and Kasmaee (2012) conducted to evaluate the effectiveness of counseling with the emphasis on rational-emotive behavioral therapy, the general health of male and female high school students in Ahvaz city in the third year.

Fourth hypothesis: the mental health has a significant difference between boys and girls.

The results in relation to the fourth hypothesis are consistent with research that have been conducted by Rajabi and Kasmaee (2012). The results showed that group counseling, increased component of general health, depression, anxiety, somatic complaints, and poor social functioning (male and female students in the experimental group. As a result of emotional - behavioral group therapy of Alice, in a way effective in reducing psychological signs and symptoms of male and female high school students, also no significant differences were found between reducing psychological symptoms between boys and girls.

RECOMMENDATIONS
- similar investigations in other countries with larger sample size and more generalized findings
- The use of cognitive therapy alone or with other methods of treating depression in teens
- Pay particular attention to depression in adolescents as national capital
- Cognitive psychology health education to students of psychology to help students, especially teenagers
- Other comparative study compared group CBT with medication

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PREDICTING LIFE SATISFACTION BASED ON SELF-EFFICACY AND SOCIAL SUPPORT

Fahimeh Alipour
M.S. in General Psychology, Islamic Azad University of Arak, Arak, Iran
Mahta.sm197@gmail.com

Dr. Davoud Taghvaei
Assistant Professor And Faculty Member at Islamic Azad University of Arak, Arak, Iran

ABSTRACT
This study aims to predict the correlation between life satisfaction and self-efficacy and social support. The sample consists of 150 female teachers of high school in Qom who were selected by multisectional random sampling. All participants were studied by three tests of Diner life satisfaction, sharer self-efficacy, and Philips social support. The findings showed that there is a significant correlation between life satisfaction, self-efficacy, and social support. The correlation coefficients are respectively 0.361 and 0.469 (p<0.05). The results also indicate that life satisfaction can be predicted by subscales of social support, social support by family, friends, and others.

Keywords: life satisfaction, self-efficacy, social support

STATEMENT OF PROBLEM
Happy experience and life satisfaction are the ultimate goal of people's purpose. Therefore, all people are trying to achieve it during their life (Haebner, 2000).

Life satisfaction is one of the oldest and stable issues in studies related to adults that is considered as general study of the current situation by comparing the person's willingness to real access it (Bechtold, 2004).

Ingelehart defines the concept of satisfaction as: life satisfaction reflects the balance between the personal wishes and his current condition. In other word, whatever the gap between the person's wishes and his current condition id high, his satisfaction would be reduced (Ingelhart, 1994 cited in Zaki, 2007).

However life satisfaction depends on personal conditions, the social factors are so effective in increasing and reducing it. The society creates the conditions that can direct the people to achieve the personal wishes and goals, in other hand, it creates a space that the person can interact and communicate with those who provides peace, security, and confidence for an appropriate life. The general life satisfaction is composed of the personal and social conditions and in fact, it is a sign of positive attitudes toward the world and the environment where he lives in.

On of the effective factors on the life satisfaction is self-efficacy. Self-efficacy is one of the important structures on cognitive-social theory by Bandura, and it means the confidence and person's belief toward his abilities in controlling thoughts, senses, activities, and the effective performance in stressful conditions (Caprara, Regalia & Scabini, 2002). This theory emphasizes on the role of the beliefs of self-efficacy in growth of person's behavior (Meeceel, Glienke & Burg, 2006). Therefore, it affects the real performance of person, selections, organizing and implementing the practices in achieving the performance levels, progress, and the person's effort in an activity (Regalia & Bandura, 2002). Vecchio,
Maria, Pastorelli, Del Bove & Caprara (2007) in a study on the teenagers have found that the academic and social self-efficacy beliefs are as the best predictors of life satisfaction.

Another variables have the close correlation with life satisfaction and social support. The results achieved by Borna Savari (2007) in a study on 190 students indicate that there is positive correlation between social support and life satisfaction of girls and boys. Review of the results of studies show that life satisfaction can be measured significantly and it can be reduced or increased remarkably. In other word, life satisfaction can be increased by identifying the effective factors. Thus, by inspiring the theoretical principle and studies, this study follows to answer this question: is there any correlation between life satisfaction and variables such as self-efficacy and social support?

RESEARCH HYPOTHESIS
- There is a correlation between self-efficacy and life satisfaction.
- There is a correlation between social support and life satisfaction.
- There is a correlation between the subscale of social support by family and life satisfaction.
- There is a correlation between the subscale of social support by friends and life satisfaction.
- There is a correlation between the subscale of social support by others and life satisfaction.

THEORIES RELATED TO LIFE SATISFACTION
VENTGOT, MERICK, AND ANDESRON'S THEORY
According to Ventgot and colleagues's theory (2003), the general theory of life satisfaction is a comprehensive theory that includes eight real theories in subjective-objective range. Following, we discuss on life satisfaction in this range based on Ventgot and colleagues' theory:

Subjective life satisfaction means the good sense of person about the life. Everybody can evaluate his view on the objects, senses, and beliefs. Whether the person satisfies his life or not is the aspect that reflects the life quality.

The existing life satisfaction means the person's life in deep level. It is supposed that the person has deeper nature that deserves respect. The person may think some of his biological nees should be met. These factors should be optimized such as growth condition or all should live based on religious ideals that are mixedwith their nature.

Objective life satisfaction means how the person'd life can be d perceived. This view is influenced by the culture that person lives based on that.

The subjective-objective range of life satisfaction is composed of some life satisfaction theories, so this range is called the general theory of life satisfaction. The different issues of the general theory of subjective and objective life quality is based on Ventgot and colleagues' theory (2003) as follow:

- Rehabilitation: It is the most natural aspect of lifesatisfaction. Life satisfaction is considered as evaluation of personal life satisfaction.
- Life satisfaction: Life satisfaction means that we feel life ass it flows as it should be. Stisfaction is a subjective status.
- Happy: Sense of happiness does not only mean being happy. It's an especial feeling that is desirable and valuable, but it is achieved hard. Happiness is a deep status feeling in person that includes balance and especial symmetry. Happiness is a sense of life satisfaction.
- Meaning of life: It is an important concept that is used rarely. People speak with their closed friends about the meaning of life. Those who seek to make life meaningful are confused that all aspects of life seemed different (Eslami, 2005).
Biologic view of life satisfaction: this kind of life satisfaction relates to the base of biologic composition in human. In biologic view, human is an alive organism as a set of cells that transfers information because of expansion and provides deep potential for human.

Understanding life potential: Human uses his potential capacity for constructive activities, good social communications, job and family.

Meeting the needs: The concept of meeting the needs compared to previous aspects has a lower level of abstraction, while it is more superficial, and it is used in generally. Traditionally needs are related to life satisfaction. This means that when humanitarian needs were fulfilled, life satisfaction increases. Needs are the state of nature, something that all human beings have in common.

Objective factors: Objective aspects of life satisfaction were related to external factors and detecting them is easy. These factors include income, financial, health, and the number of daily calls with others.

All of these theories are aspects of life that can be placed on-line continuum of mental than physical. Welfare and objective factors are the most superficial aspects because these are related to the surface of our ability to adapt to our culture. Life satisfaction and meet the needs associated with a deeper aspect, instead of happiness and the deepest understanding of the potential of our life and nature that surrounds people. Meaningfulness of life and order and harmony in the most intimate aspects are related to human biological information system. We also need to assume a core of abstract meaning in life, order and harmony in the biological systems that are unspeakable and non-quantifiable, so that the core objective and subjective aspects are the same (Ventegodt, Merrick, and Anderson, 2003).

HIERARCHY OF NEEDS THEORY (MASLOW)
Maslow (1945; quoted from Eslami, 2005) pyramid of needs stated that the level of physiological needs, safety, belongingness and affection, respect and self-actualization have been combined. His theory helps to understand life satisfaction and life satisfaction by identifying the relevant dimensions and determine the dimensions may be different in different times.

Jean life satisfaction theory
Jean (1992) has provided a model for life satisfaction. According to him, life satisfaction is a multidimensional concept that includes "personal factors", "health or health-related factors", "social, cultural, and environmental factors". According to his model, life satisfaction is influenced by personal grounds, health, socio-economic factors, culture, environment and age. Perceptions of life satisfaction are created as a result of the interaction between man and his environment.

Systematic Theory

The concept of self-efficacy
Self-efficacy means perceived ability of the individual to adapt the specific situations, and people judge their abilities to carry out a task or adapt a particular situation. Self-efficacy refers to feel self-esteem and self worth in dealing with life (Bandura, 1997). Pour Afkari (2006) knew individual beliefs about the ability to cope with different situations and efficacy.

Efficacy in adolescence depends on early confidence in the ability of a person. In the youth stage efficacy has a major effect on compatibility in marriage, parenting and puts control and domination on the job. In the period between years due to the fact that people constantly assess their abilities, skills, and targets, they are always facing with fresh sources of stress. It is difficult to evaluate the efficacy with age; reduce physical and mental ability, retirement and withdrawal from active work life as a new horizon of self-assessment. Reducing the efficacy of these assessments has a negative effect on mental and physical
functions, such as sexual activity, physical and intellectual. In short, the sense of low self-efficacy reduces the gradual loss of cognitive function and behavior and her interests and skills.

Matthews (1988, translation of the nose, 1386) quotes Plato said: "The reality is created by the mind, the life of every person is made of his ideas." The Bible also says: "Man is what has thought about that during a day."

Ellis (1979) knew irrational beliefs cause disproportionate negative emotions such as extreme shyness, guilt, low tolerance for frustration, feelings of being released, extreme perfectionism, anger, resentment and low self-efficacy severe family And to deal with it using rational-emotional therapy techniques recommended to explore the irrational beliefs that aside it, we can coped with problems, increase efficacy and happy life (translation Firouzbakht and Erfani, 2008).

THEORIES AND MODELS OF SOCIAL SUPPORT
Models and theories of social support have been provided that it can be divided into the following groups. Absence model
In 1989, Gerhard model suggests social factors that this model is result of health effectiveness. This model that is known as absence model suggests people's characteristics that are influenced by missing job, spouse, social class, and friends. Those who are vulnerable are not so supported to overcome the problem of missing.

THE DIRECT IMPACT OF SOCIAL PROTECTION
The most famous models of social protection is the impact direct. It argues that having social support is beneficial to health, conversely, the absence or lack of social support has a negative impact on health. For example, people who have high social support have greater self-esteem. Such a situation creates a positive attitude regardless of how much stress the individual may have, for example, by making him resistant to infection. Some evidence indicates that higher levels of social protection is to encourage people to adopt more healthy lifestyles (Brown, 1986, quoted by Mardani Rad, 2013). Of course, this is when there is positive support interaction. Otherwise criminal groups' social support leads to a healthy way of life or if this is negative interactions, it has possiblity to predict depression (Schuster, 2000, quoted Hosseini, 1996).

MODEL SHIELDS AND BUMPERS
The next famous model is the shields or bumpers to reduce stress. It notes that social support protects against the negative effects of too much stress on his health effectively. This protective role is effective only when the person is experiencing severe stress. It protects the cognitive assessment and mitigation through response to the stressful situation is evaluated, it will be done. When a person is faced with a very stressful to those of high social support, position as those who enjoy less protection. For example, a person might offer the perfect solution to his problem or with encouraging words to reassure the person. According to Quatroma and Shor (1990), no matter whether the stress is manageable or not. In the field of controlled events, support information and tools (material) is the most appropriate form of support. Uncontrollable events, emotional support are the best known kind of support. In addition, if the stress of a certain type is the type of needed support, it should be proportional to the stress can affect it.

REVIEW OF LITERATURE
Khosravi and Nahidpour (2012) in the study of life satisfaction, belief in fairness and social protection in the world and Hindi Iranian students concluded that there is a significant relationship between life satisfaction and social support.
Hosseini et al (2011) in a study on elderly social support and positive relationship between social support and life satisfaction claimed that social support has a positive effect on physical, psychological, socio-economic and quality of life and improves the quality of life, makes a good impression on the life and general assessment of life. Kiodo and Abella (2011) considered life satisfaction associated with social support; social interaction and a sense of belonging that is indispensable for the well-being would be increased.

Sarasyono (2010) in a study entitled with social capital and social well-being found that the socialized people in their life are supported socially, and social support leads to a higher life satisfaction and well-being. The results of Giolakty (2010) showed that perceived social support predicts life satisfaction 43 percent. He believes that spending time with family has a direct impact on people's satisfaction. He showed that the visuals that are supported by the friends indirectly affect the level of satisfaction and if the person understands himself better than his friends, his satisfaction would be increased. Lent, Taveira, Sheu, and Singley, (2009) showed that the efficacy and environment protection, progress in goals and predict the life satisfaction (Narimani, Eini, Dehqan, Qolamzadeh and Saffarinia, 2013).

METHODOLOGY
This research is descriptive and correlational. The population of this study consists of all female high school teachers of the course in Qom using multi-stage random sampling from four districts of Qom, regions 1 and 2, and the proportion of teachers in every region of 150 female high school teachers were selected in the second period. 66 people in a school region 1 and 84 schools in region 2 were teaching. Satisfaction with Life Scale, Sherer General Self-efficacy questionnaire and Philips's social support questionnaire were used as the instruments.

SATISFACTION WITH LIFE SCALE (SWLS):
This scale by Diener, Emmons, Larsen & Griffin (1985) have been prepared in order to measure life satisfaction. This is a self-report tool that is formed of 5 items and each has 7 options from one (strongly disagree) to seven (strongly agree).

Foreign validity: Diener et al (1985) in a sample of 176 undergraduate students to evaluate their satisfaction with life scale. Mean and standard deviation of students' scores equal 23.5 and 6.43 respectively and test-retest correlation coefficient score after two months equal 0.82 and alpha coefficient 0.88. Iranian reliability: in the Iranian et al (2007) standardized the Satisfaction with Life Scale were performed on 109 students. Cronbach's alpha reliability of this test using 0.83 and test-retest 0.69 are obtained. The reliability obtained 0.89 by Cronbach's alpha in this study.

Foreign validity: life satisfaction scale to determine the validity of which is investigated with a lot of tools. Diener et al. (1985) correlation between Satisfaction with Life Scale scores and other satisfactory means of subjective well-being were reported. In this study, the correlation between life satisfaction and positive and negative affect scales 0.50 and 0.37 are obtained. Schimmack and others (2002) correlation between Satisfaction with Life Scale scores and other satisfactory means of subjective well-being were reported. In this study, the correlation between life satisfaction and positive and negative affect scales 0.46 and 0.48 are obtained. Iranian narrative: The narrative structure of life satisfaction through the use of OHI-oriented traditions and Beck Depression Inventory were calculated. The scale of the OHI positive correlation with the Beck Depression Inventory showed a negative correlation. The research Satisfaction with Life Scale is a useful scale in Iranian psychological research.
Sherer General Self-efficacy questionnaire

The scale has 17 questions, each question based on the Likert scale ranging from strongly disagree to strongly agree range. This scale has been translated and validated by Bakhtiari Barati (1996).

VALIDITY AND RELIABILITY OF GENERAL SELF-EFFICACY QUESTIONNAIRE

Bakhtiari Barati (1996) assessed the validity of general self-efficacy scale, scores of this scale was correlated with the size of several character traits. Predictive Self-Efficacy Scale correlation between personality characteristics and size average (6.10, significant at the level 0.05) was confirmed in the direction of the intended structure (quoted Keramati and Shahrarai, 2004). The reliability of scale by using Guttman split-half times 0.76 and 0.79 are obtained by Cronbach's alpha coefficient (Shamaeizadeh and Abedi, 2005). In Vaqari's research (2000) in order to the final analysis of self-efficacy, Cronbach's alpha was obtained 0.85.

PHILLIPS'S SOCIAL SUPPORT QUESTIONNAIRE

This questionnaire has been prepared by Wax, Phillips, Helly, Tohmson, Willams and Stwart (1986, quoted by Murad born 2006). The questionnaire has 23 family articles that three of them relate to family (8 items), friends (7 items) and others (8 items). The questionnaire for the first time was used by Ebrahim Qavam (1992). He conducted on 100 students and 200 Iranian students and reliability and validity of the instruments. Reliability of the total scale of students at 0.90 and 0.70 were achieved. The test-retest reliability of the questionnaire was 0.81 after six weeks. In another study, Cronbach's alpha for the whole questionnaire was 0.81 (Khoshkonesh et al., 2010). The reliability obtained by Cronbach's alpha in this study is 0.70.

Analyzing hypothesis

First hypothesis: There is a relationship between self-efficacy and life satisfaction.

Table 1. Pearson correlation test efficacy and life satisfaction (n=150)

<table>
<thead>
<tr>
<th>Sig.</th>
<th>Effect coefficient</th>
<th>Correlation coefficient</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.001</td>
<td>0.13</td>
<td>0.361</td>
<td>Self-efficacy</td>
</tr>
</tbody>
</table>

As can be seen in the table, the correlation between self-efficacy and life satisfaction is equal to 0.361. This positive correlation is statistically significant (p <0.05); as a result, the first hypothesis is confirmed. Therefore, we can say that there is a significant relationship between self-efficacy and life satisfaction.

The second hypothesis: There is a relationship between social support and life satisfaction.

Table 2. Pearson correlation test social support and life satisfaction (n=150)

<table>
<thead>
<tr>
<th>Sig.</th>
<th>Effect coefficient</th>
<th>Correlation coefficient</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.001</td>
<td>0.22</td>
<td>0.469</td>
<td>Social support</td>
</tr>
</tbody>
</table>

As it can be seen in the table, the correlation between social support and life satisfaction is equal to 0.469. This positive correlation is statistically significant (p <0.05); as a result, the hypothesis is confirmed.

The third hypothesis: There is a correlation between the subscale of social support by family and life satisfaction.
Table 3. Pearson correlation test of social support and life satisfaction (n=150)

<table>
<thead>
<tr>
<th>Sig.</th>
<th>Effect coefficient</th>
<th>Correlation coefficient</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.001</td>
<td>0.28</td>
<td>0.529</td>
<td>Social support by family</td>
</tr>
</tbody>
</table>

As it can be seen in the table, the correlation between social support and life satisfaction is equal to 0.529. This positive correlation is statistically significant (p <0.05); as a result, the hypothesis is confirmed. Therefore, we can say that there is a correlation between social support and life satisfaction there.

The fourth hypothesis: there is a correlation between the subscales of social support of friends and life satisfaction.

Table 4. Pearson correlation test social support of friends and life satisfaction (n=150)

<table>
<thead>
<tr>
<th>Sig.</th>
<th>Effect coefficient</th>
<th>Correlation coefficient</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.014</td>
<td>0.04</td>
<td>0.201</td>
<td>Social support by friends</td>
</tr>
</tbody>
</table>

As can be seen in the table, the correlation between social support of friends and life satisfaction is equal to 0.201. This positive correlation is statistically significant (p <0.05); as a result, the hypothesis is confirmed. Therefore, we can say that there is a correlation between social support and life satisfaction are friends.

Fifth hypothesis: there is a correlation between the subscales of social support and life satisfaction.

Table 5. Pearson correlation test social support for people with life satisfaction (n=150)

<table>
<thead>
<tr>
<th>Sig.</th>
<th>Effect coefficient</th>
<th>Correlation coefficient</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.001</td>
<td>0.115</td>
<td>0.339</td>
<td>Social support by others</td>
</tr>
</tbody>
</table>

As it can be seen in the table, correlation between social support by others and life satisfaction is equal to 0.339. This positive correlation is statistically significant (p <0.05); as a result, the hypothesis is confirmed. Therefore, we can say that there is a correlation between social support by others and life satisfaction.

Sixth hypothesis: there is correlation between self-efficacy, social support and life satisfaction.

Table 6: Results of regression analysis to examine the relationship between multiple input method for self-efficacy and social support and life satisfaction

<table>
<thead>
<tr>
<th>Sig.</th>
<th>T</th>
<th>β</th>
<th>SEb</th>
<th>B</th>
<th>Sig.</th>
<th>F</th>
<th>Sig.</th>
<th>R²</th>
<th>R</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.001</td>
<td>4.431</td>
<td>4.608</td>
<td>20.002</td>
<td>0.001</td>
<td>20.065</td>
<td>0.001</td>
<td>0.356</td>
<td>0.597</td>
<td>Index</td>
<td></td>
</tr>
<tr>
<td>0.001</td>
<td>3.287</td>
<td>0.228</td>
<td>0.063</td>
<td>0.208</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>constant number</td>
<td></td>
</tr>
<tr>
<td>0.002</td>
<td>3.189</td>
<td>0.257</td>
<td>0.157</td>
<td>0.501</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Efficacy</td>
<td></td>
</tr>
</tbody>
</table>
As the multiple regression analysis method shows, multiple correlation results show that the correlation between life satisfaction, self-efficacy and social support on the one hand and on the other hand is equal to 0.597. R2 equal to 0.356 and show that nearly 6.35% of the variance in life satisfaction scores are predicted by these variables. The results of analysis of individual variables have shown that among these variables, self-efficacy ($B = 0.208, p = 0.001$), social support ($B = 0.501, p = 0.001$) with the variable relationship are meaningful. In other words, self-efficacy and social support can predict life satisfaction. With the addition of a single-efficacy and social support, respectively at 0.228, 0.311 and 0.257 is added to the value of life satisfaction. Stepwise multiple regression analysis are presented in Tables 7 and 8.

**Table 7.** The multiple correlation coefficient and analysis of variance to predict life satisfaction regarding the efficacy and social support

<table>
<thead>
<tr>
<th>Sig.</th>
<th>$F$</th>
<th>Sig.</th>
<th>$F$ change</th>
<th>$R^2$</th>
<th>$R$</th>
<th>Index</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.001</td>
<td>33.117</td>
<td>0.001</td>
<td>12.939</td>
<td>0.311</td>
<td>557/0</td>
<td>Efficacy</td>
<td>2</td>
</tr>
<tr>
<td>0.001</td>
<td>26.61</td>
<td>0.001</td>
<td>9.683</td>
<td>0.353</td>
<td>595/0</td>
<td>social support</td>
<td>3</td>
</tr>
</tbody>
</table>

The results of stepwise regression analysis showed that self-efficacy and social support predict life satisfaction. With the addition of self-efficacy, predictive power equals 0.311 percent. The two factors predict life satisfaction 31.1. With the addition of social support variables ability to predict is 0.353 close to 3.35% of the three variables to predict life satisfaction.

**Table 8.** Stepwise multiple regression to predict life satisfaction regarding the efficacy and social support

<table>
<thead>
<tr>
<th>Sig.</th>
<th>$T$</th>
<th>$\beta$</th>
<th>$SE_{\beta}$</th>
<th>$B$</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.001</td>
<td>5.245</td>
<td>4.124</td>
<td>21.629</td>
<td>constant number</td>
<td>1</td>
</tr>
<tr>
<td>0.001</td>
<td>-3.259</td>
<td>0.226</td>
<td>0.063</td>
<td>Efficacy</td>
<td></td>
</tr>
<tr>
<td>0.001</td>
<td>3.112</td>
<td>0.247</td>
<td>0.155</td>
<td>0.438</td>
<td>social support</td>
</tr>
</tbody>
</table>

Based on the results obtained in the above table, the coorelation between self-efficacy and social support and life satisfaction is positive. In other words, with the addition of a single self-efficacy and social support, respectively, to 0.226, 0.247, life satisfaction would be increased.

**DISCUSSION AND CONCLUSION**

As seen in the results, there is a significant positive correlation between self-efficacy and life satisfaction, including research done in this area that are consistent with the findings of this study can be noted in the following studies:

Bakoxi and Parker (2006) demonstrated that social self-efficacy and life satisfaction correlate with the academic success, social competence and avoiding risk behaviors.

Wake Chiu, Maria, Bastorly, Dell and Caprara (2007) found that educational and social self-efficacy beliefs are as the best predictors of life satisfaction. Lent, Taveira, Sheu, and Singley, (2009) showed that the efficacy and environment protection, progress in goals and predict the life satisfaction (Narimani, Eini, Dehqan, Qolamzadeh and Saffarinia, 2013). The results showed a significant positive relationship between social support and life satisfaction. In this regard, we can mention the following studies:
The findings Oates et al (2006) suggest that by increasing the ability of psychological and social support, stress would be decreased and mental health quality of life is good. Asgari, Naderi, and Sharaf al-Din (2009) showed a significant relationship between social anxiety and social support and subjective well-being in women.

Kyiodo and Abella (2011) stated that life satisfaction is associated with social support and they believed that social interaction can increase a sense of belonging that is indispensable for the well-being.

According to research findings, significant positive correlation between social support and life satisfaction are the result of family ties. The findings are consistent with findings Hesam and colleagues (2011) in research on the relationship between perceived social support, mental health and life satisfaction in students of Gorgan State University concluded that perceived social support from family predict the changes in life satisfaction 42%. The findings are also consistent with the results of Giolakty (2010) that the perceived social support predicts life satisfaction 43% and is consistent with spending time in family direct impact on people's satisfaction.

According to the results of this research, there is a significant positive correlation between social support from friends and life satisfaction that is consistent with the following research: Yamavka (2008) evaluated the health and psychological well-being as social capital in East Asia and concluded that there is a positive relationship between psychological well-being and social capital. The people in their lives are more social and more friends are of higher mental well-being as well. The results of Giolakty (2010) showed that the visuals that are supported by the friends indirectly affect the level of satisfaction and if the person understands himself better than his friends, his satisfaction would be increased.

The findings of this study suggest that there is a significant positive correlation between life satisfaction and social support from others. In this hypothesis, there are no studies that have examined the relationship between these two variables. In this context, Lent and colleagues's study (2009) noted that research among students demonstrated efficacy and environmental support to predict life satisfaction. The results also suggest that there is a significant positive correlation between self-efficacy and social support and life satisfaction which shows that the higher the level of self-efficacy and social support, and life satisfaction are also higher.

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THE ROLE OF TIME IN DEVELOPING PLACE MEANINGS
CASE STUDY: JAVAHERDEH RECREATION AREA, RAMSAR, IRAN

Seyedeh Hanieh Nejati
MSc Student in Architecture
hnejati.design@gmail.com

Mohammad Mahdavi
Assistant Professor, Islamic Azad University Noor Branch

ABSTRACT
Person-place models show that there are complex and multidimensional bonds between individuals and places. Since some of researchers believe that familiarity duration with a place is an effective factor for place bonding, there is almost no data to prove this hypothesis, and even it is not clear that how and why does time affect these bonds? In the present study, comments of Javaherdeh recreation area visitors were used in order to prove and describe the role of time in devoting sense of place. Questionnaire was the main tool used in this study. Content validity and Cronbach's alpha methods were used to determine validity and reliability of the questionnaire, respectively. The results showed that there are significant differences between people who had a special place and those who did not have a special place, based on visit characteristics including repeated visits, maintaining the bond, and duration of stay. Moreover, a significant difference was observed between familiarity of visitors and sense of place. In this study, the physical environment was considered important in the case of short-term familiarity with other places, while social relationships, homes, and ceremonies were considered important in the case of a longer-term familiarity. The results showed that a longer-term familiarity with a place converts the basis of physical attachment into social attachment. Furthermore, longer-term familiarity with a place will lead to a higher place attachment.

Keywords: Place Attachment, Place Meanings, Time

INTRODUCTION
The studies on places and their senses includes a variety of fields such as philosophy, literature, anthropology, geography, sociology, natural resources and architecture (Casey 1997; Calbran 1998; Lowe and Altman 1992; Manzo 2005; Relph 1976; Tiger and Azal 1996; William and Stewart, 1998). Although most people agree with that place and time are an important part of human life, but the effect of time on our relationship with place has been ignored. The present study investigated the effect of time on relationship of individuals with place. To this aim, perspectives of researchers such as Relph (1976), Tuan (1977), William Peterson, (1994) were used in the present study, who believe that human is the creator of places. Human lives in the geographical space, once he gives it a personal meaning, he calls it "Place" (Casey 1997). Relph (1976), a human geographer, states that places are centers of actions and intentions which have special places in space and time. People focus on place and distinguish it from the surrounding environment, while it is a part of that environment. For years, concepts of the relationship between human and environment were studied, and the terms of place attachment (Lowe and Altman 1992; Williams et al. 1992), sense of place (Kantril 1998; Hay 1998; Shamay 1991; Stedman 2002; Estelle 1981; Williams and Stewart, 1998), place identity (Proshanski, Fabian and Kaminof 1983), and place dependence (Stokelz, 1981; Schumacher, 1983) have been widely used. Sense of place is a term containing meaning of all our relations with places. Place attachment deals with effective relations of
human with place including "Place identity" and "Place dependence" (Farnam, Hall and Krueger 2005). Place dependence in addition to being a measure of the individual dependence to the place, it also contains emotional and symbolic senses that people give to places. The present study focused on these senses. Several studies indicate that the bonds between individuals and places are complex and multidimensional, so that they cannot be easily classified (Bricker and Kerstetter, 2000; Gastafon, 2001; Hay, 1998; Manzo, 2005; Smaldon, Harris and Sanya 2005; Lowe and Altman 1992). These studies showed that in addition to senses, there are various trends that cause place attachment. Several studies have been conducted on the sense of place increasing trends including personal, social, cultural and even biological trends (Farnam et al., 2005; Galliano and Lovifler, 1999; Hay, 1998; Lowe & Altman, 1992).

Time spent in a place is one of the important factors in these studies. Researchers and authors (Lowe, 1992; Moore and Graefe, 1994; Relph, 1976; Tuan, 1977) believe that the time spent and growing experience in a place create deeper senses and emotional bond between individual and place. However, there are a few studies in this area. The present study increases our understanding about why and how time affects visitors and local residents bonds to the mentioned places.

AN OVERVIEW OF CONCEPTS OF PLACE ATTACHMENT

Place attachment as an emotional bond to place is usually the result of a long-term relationship with the place (Lowe & Altman, 1992; Moore and Graefe, 1994; Relph, 1976; Tuan, 1977). This is different from individual interest in place due to its beauty. Because beauty of a place is a simple aesthetic reaction. For example, a person can have emotional reaction to ugly and beautiful places, but this feeling can be superficial and fleeting. Schroeder 1991 calls this distinction "Sense against taste". He states that sense is our thoughts, feelings, memories and interpretations toward a vision, while taste is our interest rate in an outlook compared to another one. According to Schroeder, long-term bond of individual to the place is a key factor for a significant, deep and lasting emotional attachment. This study described two main dimensions of place attachment namely identity and place dependence. Place dependence was examined using Scoles and Schumacher (1981) model, in which it is defined as an understanding of amount of the individual visits. Place dependence depends on two factors: 1) Performance of the place in meeting needs or a specific function; 2) Its relative quality compared to other places. So place dependence is the practical dimension of place attachment. Scoles and Schumacher (1981) stated that commuting duration plays an important role in place attachment. They believed that duration and frequency are the objective features of visits. Duration refers to time period of the individual familiarity with the place and frequency refers to the number of the individual visits. The concept of place identity was first described in a framework by Proshansky, et al. (1983). They stated that this framework shows us understandings of the physical world including a mix of the following items: Memories, thoughts, feelings, attitudes, values, preferences, senses and concepts of behavior and experience, etc. "The individual past environment" takes place in the center of the understanding of the physical environment, that is the past including places, spaces and features and leads to meet the biological, psychological, social and cultural aspirations. Karplla (1989) believes that place identity results from self-regulation of an active environment, while emotional attachments take place in the center of place identity. Therefore, place identity is the more emotional and symbolic dimension of place attachment which has been formed and strengthened over time (Williams et al., 1992). Bricker and Kerstetter (2000) carried out studies on place attachment and recreation expertise amongst Whitewater re-creators and introduced the third dimension of place attachment namely "Life style". Hammitt, Backlund, and Bixler (2006) tested and examined the five-dimensional model of place constraint model. This new model includes previous concepts of place identity and place dependence, but dimensions of place familiarity, belonging, and rootedness have also been added. Place familiarity (The initial stage of communications, duration of residence, memories), and rootedness (Deep relationship, repair pedigree, long-term characterizations) represent aspects of temporary connection with the place. Relph (1976) and Tuan (1977) believe that place attachment requires long-term connection and involvement with the place. Sociologist also state that long-term residence increases sense of attachment, so that a part of it is achieved through familiarity, the number of important events over time and most

PLACE ATTACHMENT, STUDY OF RECREATION AREAS, TIME
A small number of studies have pointed to the role of time in place attachment and sense of place. Moore and Graefe (1994) studied place attachment, place identity, and place dependence in the case of recreation areas. They found that longer-term familiarity, visit frequency, or using the shortest route increases sense of place. They considered differences in formation ways of these attachments and stated that place dependence grows rapidly but place identity needs more time (Moore and Graefe, 1994). Some other quantitative studies obtained a similar correlation between place attachment and various criteria of familiarity duration (Hammitt et al., 2006; Kaltenborn, 1998; Patterson and Williams, 1991; Vokinn and Riese, 2001). However, other studies found a poor correlation between attachment and past experiences (Backlund and Williams, 2004; Kaltenborn and Williams, 2002; Stedman, 2000). Qualitative studies revealed the correlation between time and place attachment. For instance, Mitchell et al. (1993) studied on those who went to the United States National Forest for recreation using qualitative methods and found differences between emotional and practical attachment (Moore and Graefe, 1994). Mitchell et al. (1993) split place users into two groups: 1) Attached 2) Users. Considering familiarity duration, they found that all the people in the attached group visited a place frequently, while in the users group only one person visited the place frequently. This result suggests that although time is an important factor but it is not the only factor in the formation of place emotional bond. Other qualitative studies have pointed to the importance of time in the formation of place attachment (Brooks et al. 2006; Hay, 1998; Manzo, 2005; Smaldone et al., 2005).

CHANGES IN PLACE MEANINGS OVER TIME
Some of the conducted studies distinguished between uniqueness of a place for the individual and the individual attachment to the place and its senses (Bricker & Kerstetter, 2002; Davenport & Anderson 2005). Stedman (2003) stated that place attachment is different from sense of place and the reason of attachment. Although the individual place attachment is somehow based on sense of place, but they should be studies separately. Some researchers believe that sense of place is affected by the individual familiarity duration (Brandenburg & Carroll, 1995; Cantrill & Senecah, 2000; Hay, 1998; Kitayama & Markus, 1994). For example, according to Kitayama and Markus (1994): "Sense of place is changed over time, because importance of various features is changed with the experience of a place. They state that the bond of those who visit a place for the first time is based on environmental features, but the bond of those who visit the place more, is based on social relationships. Cantrill (1998) found evidence for this hypothesis in his studies on residents of Michigan. Respondents who lived less than 15 years there, when describing sense of place, emphasized on the features of the natural environment, but those who lived longer in this place, considered social relationships. Cantrill & Senecah (2000) stated that: "If a person lives in a place for a long time, when describing his/her surrounding environment, he/she refers to social forces such as interpersonal relationships, not environmental conditions.

STUDY PURPOSE
Some studies showed that duration of familiarity with a place plays an important role in attachment, but they did not explain that why and how? (Kaltenborn, 1998; Moore & Graefe, 1994; Patterson & Williams, 1991; Vokinn & Riese, 2001).

In the present study, quantitative methods were used to prove and describe the role of time and experience in developing sense of place.

RESEARCH QUESTIONS
Based on the previous studies, the following key questions were considered:
1- Does familiarity duration affect sense of place? Is it correct that people who are connected to a place for a longer time, when describing the place, emphasize on emotional and social senses in comparison to those who are connected to a place for a shorter time?
2- On the contrary, whether those who are familiar with a place for a shorter time refer to physical conditions and activity senses?
3- Do senses of place change over time and if so, how does this change occur?

METHODOLOGY
CASE STUDY
Jvaherdeh, Ramsar located in the northwest of Mazandaran province, Iran was selected as the case study. This area, as a recreation area has approximately 150,000 tourists that most of them visit the area in the summer (Dena Information Network, 2014). Jvaherdeh is a mountainous area with entertainments including hiking, walking and other leisure that are done outdoor. This place economy is based on tourism revenue.

DATA COLLECTION METHOD
Library and field data were used in the present study. So that, theoretical foundations and applied research were obtained through documentary and library study, and data related to the population were collected through field study or survey.

STATISTICAL POPULATION
In the present study, statistical population consisted of Jvaherdeh visitors (first time visitors, and second time visitors). Due to vast population and limited time, inductive reasoning (samples and sampling) was used to identify the population (Habibpour et al., 2012). The random sampling method was used in this study. Cochran formula was used to determine the sample size (Habibpour et al., 2012) and the sample size of 732 was calculated. According to the peak of tourists in Jvaherdeh during July, August and September, sampling was conducted in these months of 2014.

DATA COLLECTION TOOLS
Questionnaire was the main tool used in this study. The questionnaire was designed based on the research objectives and questions. The multi-item Likert scale was used to measure attitudes. Content validity and Cronbach's alpha methods were used to determine validity (Tabibi, 2009) and reliability (Habibpour et al. 2012) of the questionnaire, respectively. The standardized alpha was calculated equal to 0.879 which indicates that 30 items of place attachment index have high inter-rater reliability to measure this index. Questionnaire was used to collect data on connection duration of Jvaherdeh visitors. Questions were based on frequency and maintaining this connection (Stokelz & Schumacher, 1981) including: (1) Duration of stay (in hours or days) in Jvaherdeh, (2) Number of visits, and (3) Number of years that they visited Jvaherdeh. In this questionnaire, respondents were asked whether there is a special place in this national park attracting their attention or not. If they said "Yes", they should name up to 3 special places and describe that why these places are special and how much time they spent there. Using these open-ended questions, depth of senses can be achieved, because this type of research included various responses to identify experiences of Jvaherdeh visitors (Eisenhauer, 2000). The other open ended question asked all the respondents to name other special places that they know. This question had two purposes. Firstly, maybe some visitors do not have a special place in Jvaherdeh; and secondly, it was possible to compare familiarity duration of special places in Jvaherdeh with familiarity duration of places out of there based on senses of place. Therefore, respondents were asked whether they know a special place in Jvaherdeh, if so, list 3 of these places and describe that why these places are special and how much time they spent there. Estimated time for Jvaherdeh and other places determined and classified familiarity duration:

1- Low: One visit or visit for a short time for example, less than one day.
2- Moderate: Two to four visits or spending one or more days in the place.
3- High: More than five times or spending weeks or years in the place.

This sequence determined frequency and continuous of these relationships and is also the simplified version of the concept of "The experience-use history" described by Schreyer et al. (1984).

**DATA ANALYSIS METHOD**

In this study, descriptive and inferential statistics were used to analyze data. Descriptive statistics based on the questionnaire items was used to describe variables, Chi-square test was used to compare the differences in sense of place between frequent visitors and first-time visitors, and independent t-test was used to determine differences between sense of place and time-related variables. Kruskal-Wallis test was used to compare the average duration for places out of Javaherdeh with sense of place. The results were obtained at p<0.5 significance level.

**THE QUESTIONNAIRE DATA**

Qualitative approach was used in data analysis. 86 special places were named in 674 responses. These places were classified by name or type of place. Certain places named by respondents ranged from the most special places to most public and greater places. After investigating, 14 separate codes shown in Table 1 were obtained.

**Table 1: Definition of sense of place codes obtained from the questionnaire**

<table>
<thead>
<tr>
<th>Sense of place code</th>
<th>Definition of code</th>
<th>An example of research response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical environment</td>
<td>Referring to sights and beauty as the first descriptor. Referring to special features such as mountains / water / wildlife / vegetation / whether, etc.</td>
<td>Very beautiful landscape, the beauty of the lake and mountains, outlook</td>
</tr>
<tr>
<td>Emotional bond</td>
<td>Referring to any personal emotional and psychological impressions</td>
<td>Excellent opportunity for contemplation. feeling of freedom. tranquility, quietness</td>
</tr>
<tr>
<td>Outdoor leisure</td>
<td>Referring to the place due to outdoor recreational facilities such as walking, Boating, Biking and nature photography, etc.</td>
<td>Walking around the lake. Swimming is very good, Enjoying boating with our family (two-codes)</td>
</tr>
<tr>
<td>Social relationship</td>
<td>Referring to other people such as friends / family / memories with people</td>
<td>Enjoying boating with our family, Friends' wedding. Friendship</td>
</tr>
<tr>
<td>Particular times or experience for the first time</td>
<td>Referring to the place because of experiencing an event there for the first time e.g. wedding or anniversary. Or occurrence of the first or unique experience in that place</td>
<td>I got married there. The first time I saw a deer there. The highest place that I ever marched.</td>
</tr>
<tr>
<td>Passing time / habit</td>
<td>Noting that visiting this place is because of customs. Or referring that going to this place and spending a long time there is important for them.</td>
<td>Nice memories. Three generations of family. We went there for many years. Customs</td>
</tr>
<tr>
<td>Pristine nature, naturalness</td>
<td>Referring to the place because of its pristine nature. Cleanliness. Lack of pollution. Being pure and authentic.</td>
<td>Pristine nature, Cleanliness. Naturalness and underdevelopment</td>
</tr>
<tr>
<td>Escape loneliness (A combination of three codes: Escape, tranquility and quietness)</td>
<td>Referring to the following items: A place to escape from routine and normal life. A quiet place and away from crowd. Solitude as an important reason. A place for relaxation/quietness/tranquility/contemplation/Relief</td>
<td>Low traffic route. Calm. Quiet. Isolation. An environment for tranquility and contemplation. Relief</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Promoting (A combination of three codes: Promoting, spiritual aspect, feeling of being insignificant in the nature)</td>
<td>Pointing out that this is a place of inspiration and uplifting. Or this place induces feeling of being insignificant to human. Or referring to the place due to religious and spiritual aspects</td>
<td>Relationship between myself and my soul and the environment. Touching the Heaven. Power source. Makes me to think about God. I realize that how little I am.</td>
</tr>
<tr>
<td>Tranquilizer</td>
<td>Referring to the place because it is quiet and comfortable and is a nice place for relaxation and contemplation.</td>
<td>Calm. Silent. Quiet</td>
</tr>
<tr>
<td>Quietness</td>
<td>Referring to the place because of quietness</td>
<td>There is anybody here. Here is quiet and not crowded</td>
</tr>
<tr>
<td>Facilities and good food</td>
<td>Pointing out that here is a good place to stay. Accommodation, Restaurants and facilities that make the place special.</td>
<td>Our accommodation was excellent. Crabs. Good management</td>
</tr>
<tr>
<td>Cultural and historical importance</td>
<td>Culture or referring to culture or people of a place, which make the place important. Important cultural aspects. Referring to the cultural and historical importance</td>
<td>Historical sense. Cultural hub. Historical value. Famous mountain for Native America</td>
</tr>
<tr>
<td>Home</td>
<td>Referring to someone who lives or lived in a place that is literal or symbolic called home.</td>
<td>2 months we lived in the cottage. Our home. The house where I grew up. Home means identity</td>
</tr>
</tbody>
</table>

RESULTS
A total of 649 questionnaires were used in Javaherdeh during data collection. Among them, 493 visitors completed questionnaires with a response rate of 76 percent. No significant difference was observed in comparison of responding and non-responding people in terms of education level, duration of stay, and accommodation. There was one exception that visitors did not tend to return the questionnaires. Also there were differences in ages of visitors (Visitors aged between 35-55 were less willing to return questionnaires) and the number of group members (Visitors in groups of two intended to return questionnaires more, while groups of more than five people were less willing to return questionnaires). Moreover, visitors who were visiting Javaherdeh for first time were more willing to return questionnaires compared to those who visited there between 2 and 9 times. Due to this potential source of minor bias, a few points should be considered when analyzing the results. The average age of respondents was equal to 47 years old (median = 48) aged 18 to 86. Most of the visitors (66 percent) traveled with their family, and one-third (38%) of visitors were visiting Javaherdeh for the first time while 32% of them visited the park two to four times. Travel characterizations are presented in Table 2. Half of visitors spent one day or less in Javaherdeh.
The results obtained from the questionnaires were presented and examined in the following sections. First, characteristics of visitors amongst people who had a special place in Javaherdeh and those who had not a special place were evaluated with emphasis on socializing duration. Then, differences in sense of place were assessed based on socializing duration. Afterward, senses of place and socializing durations were examined for the special places out of Javaherdeh.

**COMPARING PEOPLE WITH AND WITHOUT SPECIAL PLACE BASED ON VISIT CHARACTERISTICS**

48% of visitors stated that some special places in Javaherdeh are important and special for them. The results shown in Table 3 indicate that no significant statistical difference was observed between people who has a special place in Javaherdeh and those who had not a special place in terms of visit characteristics including visit frequency, maintaining this connection, and duration of stay. Those who reported a special place, had longer-term and more significant duration of stay (4/3 days against 2/2 days, and t-test result was equal to 3.134), had more frequent visits (6/9 visits against 0/2, and t-test result was equal to 6.352), and had a longer-term connection with the park (1/16 years against 7/9, and t-test result was equal to 4.317).

**Table 2: Travel characteristics (Respondents)**

<table>
<thead>
<tr>
<th>Type of group</th>
<th>Percentage of visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>With family</td>
<td>66%</td>
</tr>
<tr>
<td>With friends</td>
<td>12%</td>
</tr>
<tr>
<td>Alone</td>
<td>16%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of visits</th>
<th>Percentage of visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>One visit</td>
<td>38%</td>
</tr>
<tr>
<td>2-4 visits</td>
<td>32%</td>
</tr>
<tr>
<td>5-9 visits</td>
<td>14%</td>
</tr>
<tr>
<td>10 or more visits</td>
<td>16%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of days spent in Javaherdeh</th>
<th>Percentage of visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day of less</td>
<td>50%</td>
</tr>
<tr>
<td>2-4 days</td>
<td>31%</td>
</tr>
<tr>
<td>5-7 days</td>
<td>10%</td>
</tr>
<tr>
<td>8 days or more</td>
<td>9%</td>
</tr>
</tbody>
</table>

**Table 3: Familiarity duration and special places**

<table>
<thead>
<tr>
<th>t statistic</th>
<th>With a special place (Average)</th>
<th>Without special place (Average)</th>
<th>Duration of stay (in days)</th>
<th>Number of visits</th>
<th>Familiarity duration (in years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>t= 3.134**</td>
<td>4/3</td>
<td>2/2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t= 6.352**</td>
<td>6/9</td>
<td>0/2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>t= 4.317 *</td>
<td>1/16</td>
<td>7/9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*At p<0.1  
** At p<0.001
COMPARING PLACE MEANINGS BETWEEN FIRST-TIME AND SEVERAL-TIMES VISITORS

The results obtained from Chi-square test shown in Table 4 represent significant statistical differences between familiarity durations of visitors and senses of place. Those who visited Javaherdeh several times, reported the following senses of place as an important factor more than the first time visitors: Outdoor recreational activities, quiet place, social dependencies, special moments, and performed ceremony or elapsed times. There was no difference between physical environment senses of place and visitors’ emotional bond to the place.

Table 4: Differences in sense of place between first-time and several-times visitors

<table>
<thead>
<tr>
<th>Sense of place</th>
<th>The percentage of visitors who visited the place several times and use of sense of place</th>
<th>The percentage of visitors who visited the place for the first time and use of sense of place</th>
<th>Chi-square statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical environment</td>
<td>71%</td>
<td>77%</td>
<td>NS</td>
</tr>
<tr>
<td>Outdoor recreational activity *</td>
<td>60%</td>
<td>34%</td>
<td>$X^2 = 16.715^{*}$</td>
</tr>
<tr>
<td>Emotional bonds</td>
<td>32%</td>
<td>27%</td>
<td>NS</td>
</tr>
<tr>
<td>Social relationships *</td>
<td>29%</td>
<td>12%</td>
<td>$X^2 = 9.521^{*}$</td>
</tr>
<tr>
<td>Special moments *</td>
<td>19%</td>
<td>7%</td>
<td>$X^2 = 6.267^{*}$</td>
</tr>
<tr>
<td>Quiet place *</td>
<td>15%</td>
<td>5%</td>
<td>$*X^2 = 5.832$</td>
</tr>
<tr>
<td>Time or customs *</td>
<td>11%</td>
<td>4.2%</td>
<td>$X^2 = 5.271^{*}$</td>
</tr>
</tbody>
</table>

* At $p<0.1$

** At $p<0.001$

NS: None significant

COMPARING THE AVERAGE DURATION OF FAMILIARITY AND PLACE MEANINGS

The results obtained from Kruskal-Wallis test for the duration of familiarity and sense of place are presented in Table 5. The results indicate that physical environment was reported by people with a shorter term familiarity, and outdoor recreational activity, social relationships, home, and ceremony were reported by people with a longer term familiarity.

Table 5: Familiarity duration and sense of place

<table>
<thead>
<tr>
<th>Sense of place</th>
<th>Familiarity duration</th>
<th>Kruskal-Wallis statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Short-term familiarity</td>
<td>Long-term familiarity</td>
</tr>
<tr>
<td>Physical environment</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

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DISCUSSION
The results obtained from comparing people with and without special places based on visit characteristics indicated a significant statistical correlation between first-time and several-times visitors in reporting special places. The observed statistical correlation shows that by increasing number of visitors, special place report is increased. These findings were consistency results obtained from the previous studies indicating the correlation between longer-term familiarity and more intense place attachment scale (Kaltenborn, 1998; Moore and Graefe, 1994; Taylor et al., 1985; Vokinn & Riese, 2001). Although this study did not measured intensity of place attachment, but the result that people with more frequent visits (Frequency) and longer-term familiarity with Javaherdeh (stability) have reported special places, confirms that longer-term familiarity with a place leads to more intense place attachment (Moore and Graefe, 1994; Relf, 1976; Tuan, 1977). The results obtained from comparing senses of place between first-time and several-times visitors indicate a significant statistical difference. So that visitors who have visited Javaherdeh several times reported senses of place including outdoor recreational activities, quiet place, social dependencies, special moments, and performed ceremony or elapsed times as an important factor more than first-time visitors. These findings confirm only part of the previous studies. Theoretical evidence (Cantrill & Senecah, 2000; Kitayama & Markus, 1994) and experimental evidence (Gerson et al., 1997; Hummon, 1992; Lalli, 1992; Taylor et al., 1985) showed that longer-term familiarity with a place converts physical attachment to the place into social attachment. The results obtained from comparing average familiarity duration with senses of place indicate that physical environment was reported by people with a shorter term familiarity, and outdoor recreational activity, social relationships, home, and ceremony were reported by people with a longer term familiarity. These results confirm the previous findings (Cantrill & Senecah, 2000; Gerson et al., 1997; Hummon, 1992; Lalli, 1992; Taylor et al., 1985). In this study, the physical environment was described with short-term familiarity with other places, while social relationships, home, and ceremony/elapsed times were described with longer-term familiarity. However, senses related to emotions are not relevant to familiarity duration and outdoor recreational activities is associated with a longer-term familiarity.

CONCLUSIONS
The present study confirmed the importance of time in bond of individuals to places. The results obtained from questionnaires confirmed previous findings and assumptions indicating the importance of familiarity duration in creating place attachment. Individuals with more frequent visits and longer-term familiarity with Javaherdeh reported that Javaherdeh is a special place more that those with a shorter-term familiarity. The same results were obtained in interviews. Findings also show that familiarity duration affects sense of place. These results reflect consistency and incompatibility of the research questions. In consistence with the previous findings on familiarity duration and sense of special places (Cantrill & Senecah, 2000; Kitayama & Markus, 1994) individuals with longer-term familiarity almost reported social and emotional bond, i.e. special moments and quite place, to special places. However, both several-times visitors and local people reported that outdoor recreational activities are also important and represent the importance of Javaherdeh for recreation as a unique factor in making some places special. Finally, most of visitors also reported the physical importance of Javaherdeh. Therefore, type of a place like Javaherdeh -a place for travel, with beautiful landscapes, and several recreational opportunities- can somehow describe these findings and indicate that type of the desired place should be considered. It
should be noted that context of the special place is very important in evaluating its senses (Bricker & Kerstetter, 2002). In this paper, three perspectives on places and place attachment were examined: 1) Perspective of Schroeder (1991): “Meaning against preference” 2) Long-term social bonds against immediate attraction of the physical environment, by Kitayama & Markus (1994), and 3) Place identity against place dependence (Moore and Graefc, 1994; Williams et al., 1992). These perspectives are linked together and actually explain a single phenomenon. These frameworks, based on their inter-rate concepts, show that every bond between human and place has its own specific location on the ever-changing time scale that has an effective and important context. Time is a necessary but not sufficient factor in place attachment. These findings refer to better approaches to distinguish between place dependence and place identity and maybe the need to identify other place aspects such as bond formation (Hammitt et al., 2006). Although time and experiences obtained in a place are important factors in formation of any type of bond to place, but this question may arise that whether place attachment is formed first and then is completed or even influenced by place identity, or place attachment is converted into place identity? The present study showed that perhaps place attachment and place identity are formed together and their power is changed, reduced, and becomes nonsignificant during the individual bond to the place. Are there other aspects that should be considered in human-place models? Perhaps, it is better to display place attachment using a spectrum of place attachment containing no attachment at one end and place identity at the other end and place attachment somewhere between the two ends. Some studies aimed to evaluate the idea of spectrum and examine the power of place attachment (or sense of place) from lack of information about the place (without attachment) to obligation to it or even sacrificing for the place (Kalenterborn, 1998; Shamai, 1991). This classification is more useful when it is combined with scales of components of place dependence and place identity so that the possible conceptualization of these components and their correlations be more examined (Hay, 1998a, b). Finally, longitudinal studies can better evaluate this time tide in human-place bond by combining qualitative methods (e.g. interviews, etc.) with these quantitative scales.

Finally, the present study added another layer to the thick string of understanding how places become important to individuals. Several ways of conceptualizing human-place bond are the evidence of the complexities of this fabric (Cantrill, 1998; Giuliani & Feldman, 1993; Hay, 1998a; Low & Altman, 1992; Stokols & Shumaker, 1981; Tuan, 1997; Twigger-ross & Uzzell, 1996). However, we should not aim to separate place and people (Williams & Stewart, 1998). It seems that by increasing our understanding, the importance of this view that people and places become more close together over time is also increases.

REFERENCES


DESIGNING ARCHITECTURAL PROCEDURE FOR HOUSE PARTICULARLY FOR CHILDREN

Fatemeh Mohammadian
Department of Architecture, Tabriz Branch, Islamic Azad University, Tabriz, Iran
f.mohammadian.arch@gmail.com

Hassan Sattari Sarbangholi
Department of Architecture, Tabriz Branch, Islamic Azad University, Tabriz, Iran
sattari@iaut.ac.ir

ABSTRACT
Children cortical most important for future prosperity and social dynamics that make up the country. Architectural design Successful environment for children requires taking into account the criteria and Indexes particular, this class is special. In the present study focuses on increasing creativity children tried to theoretical studies in the field architectural design children will be achieved. The goal of this research architectural design Social and institutional focus as children house in the event of increasing creativity children. Architectural design process that uses two physical planning and architecture architectural design takes place hence in the physical planning architecture, design body design diagrams and charts to design, specify the required spaces, layout and communication spaces, diversity and quality of space, flexibility and fluidity of space and form design, it is predicted, then step architectural design Takes place, in this study the process architectural design for children there will be a special home, descriptive and analytical methodology for collecting data library method is then based on the analysis of information and related charts are plotted diagram based on the conducted analysis and alternatives based on the factors affecting the architectural design Special children's home has been suggested that in line with the idea architectural designing format of architectural design Special children's homes, alternative and superior architectural design ideas will be selected. The results can be child-centered design or architectural design that most users of space, children are utilized.

Keywords: architecture fabric, architectural design, children house, increasing creativity

INTRODUCTION
In today's cities, with little reflection on human settlement environment and especially children due to the fact that the time has come for children's attention and emphasis on architecture. Architectural ideas and new designs should be able to meet the needs of today's children is physically spirit. Evidence-based research to support the development of creative skills develop in children and adolescents, flexible use of space and time, the availability of suitable materials, activities outside the classroom, it seems logical game based on independence (Davies, Collier 2013) research indicated that children's creativity "will depend on the strength of their imagination," imagination is the most important factor in promoting children's creativity (Shafaei and Madani, 2010). In terms of Sigmund Freud should be a source of creativity in childhood experiences it is therefore necessary to find a person in the early stages of child development, fosters creativity he considered (Noghrekar et al., 2009). Creativity is the interaction between talents. Creativity with a focus on the environment, this axis as the most important factor is the formation of creative ideas. (Bisadi, Hosseini, 2012) in recent years in the field of creativity of children and students does a lot of research in the field of emotional-cognitive and educational issues. Unfortunately in the field of architecture and the role of architectural space less attention has been paid in
nurturing creativity (Mahdavinezhad and Silvayeh, 2013). With regard to the process of learning in early childhood, playing the best communications natural environment is the best place of learning for children.

Recognizes the child's talent and creativity increases his potential. (Faizi, Karimi, Azari, 2012) With regard to growth, activation, promotion of creativity in children is very important. In order to improve creativity, some ways of encouraging children's minds to new thinking and develop creativity. One of these methods, the impact of natural or synthetic environments for children is increasing creativity (Acar, 2014) without a doubt, any development that occurs in contemporary art to artistic phenomena can say that art is essentially the same as creativity. The emergence of artistic creativity as creativity in other fields of science and education need help and involvement of some subjective and dependent on environmental factors. architectural design process considering the circumstances of architectural design in mind, the conditions and the architectural design of its own needs, in the process of architectural design is the same with respect to the project architectural design to suit to be asked employers and purpose and idea of architecture, items of categories and priorities, and then consider conditions such as climate, architectural design to architectural design, site design and texture desired area, access to him architectural design project takes place determined to architectural design goals, ways to achieve these objectives design comes in pre-measured and evaluated welcomed the plan, after the operation of the scheme takes place, the strengths and weaknesses plan No anticipated and checked up after the project architecture, the weaknesses of the design minimized, architectural design, especially children need to know the child and the child's use of space in architectural design and children spaces for children with attention to the child's size, scale and children's furniture, attractive and inviting spaces for children takes place.

<table>
<thead>
<tr>
<th>Date</th>
<th>Author</th>
<th>Title</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>Tourense ,Translated by Hassan Ghasemzadeh</td>
<td>They nurture creative talents and skills, and ways</td>
<td>Knowledge and understanding of how to develop their talents - Movers creativity - creativity growth from an early age</td>
</tr>
<tr>
<td>1997</td>
<td>Translated byNematollahYarahmadi</td>
<td>Behavior (building and guiding children up to 10 years old).Leading Publications</td>
<td>Understand the characteristics of the dominant character in their childhood and childhood to the age of 10 years takes place</td>
</tr>
<tr>
<td>2010</td>
<td>Minu Shafaei, Ramin Madani</td>
<td>Design principles of educational facilities based on creativity, Journal of Technology Education, fourth, Volume 4, Issue 3, Spring 2010</td>
<td>- Physical environmental design of educational facilities based on the creativity -In Considering the factors stimulating creativity in the design space</td>
</tr>
<tr>
<td>2013</td>
<td>Mahdavinejad, GH, Siluayh Sonia</td>
<td>The impact of the arts on student creativity, innovation training Quarterly, Issue 48, Winter 2014</td>
<td>- Creativity with a focus on creative person - creativity with a focus on creative mental process with a focus on the environment creative creativity-focused operation with a focus on the environment as the most important factor is the formation of creative ideas.</td>
</tr>
<tr>
<td>Date</td>
<td>Name architect</td>
<td>City / Country</td>
<td>Architectural documents</td>
</tr>
<tr>
<td>--------</td>
<td>-------------------------</td>
<td>------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>2000</td>
<td>Perkins, broad Ford.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>Rabia Cigdem Cavdar.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>Habibe Acar.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>Dan Davies, Divya Jindal-Snape, Chris Collier</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>Faizi, Karimi, Azari</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**BACKGROUND ON RESEARCH THEORIES**

**SOME BACKGROUND RESEARCH THEORY:**
Source table according to sources cited by the author

**SOME OF THE RECORDS OF ARCHITECTURAL DESIGN:**

Table 2.1. Examples of architecture museums and centers of children's creativity

<table>
<thead>
<tr>
<th>Date</th>
<th>Name architect</th>
<th>City / Country</th>
<th>Architectural documents</th>
<th>Points to consider</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007-2006</td>
<td>24H&gt; architecture</td>
<td>Mountain fertilizer island in the Gulf of Thailand</td>
<td><a href="http://www.archdaily.com">www.archdaily.com</a></td>
<td>Children interact with each other through fun activities to increase children's awareness. Designed aspects. The structural design of a cantilever roof with 8 meters high, like a big umbrella to provide shade and protection from rain.</td>
</tr>
</tbody>
</table>

¹ Beck, et al Laboratory 2 Design guide, Architecture press Building type basic for elementary and secondary schools
<table>
<thead>
<tr>
<th>Year</th>
<th>Design Firm</th>
<th>Location</th>
<th>Website</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>The Kubala Washatko Architects</td>
<td>Madison / Vskansyn</td>
<td><a href="http://www.archdaily.com">www.archdaily.com</a></td>
<td>The architectural design of the museum of local natural materials and colors that somehow raise the quality of the air inside the museum as well as attending a ordinary green space in the induction of user. Sustainable design using green roof and photovoltaic panels for electricity.</td>
</tr>
<tr>
<td>2011</td>
<td>Work Ac Architecture</td>
<td>New York / United States of America</td>
<td><a href="http://www.archdaily.com">www.archdaily.com</a></td>
<td>The museum is designed to encourage more kids to the arts and learning, a place where kids where their works and exhibit them at the same time. Water for hand-washing cycle to be modified and tailored to different age groups.</td>
</tr>
<tr>
<td>-</td>
<td>Zeraf Architecture Studio</td>
<td>Taipei / Taiwan.</td>
<td><a href="http://www.archdaily.com">www.archdaily.com</a></td>
<td>Children's museum is designed in two separate floors of the main museum and around the site in relation to the park. Box Toys sink embedded in the floor area so that children are encouraged to pass out of the museum and park.</td>
</tr>
<tr>
<td>-</td>
<td>Krueck &amp; Sexton Architects</td>
<td>Illinois / Chicago</td>
<td><a href="http://www.archdaily.com">www.archdaily.com</a></td>
<td>Its contact between the play and learn at the museum galleries for spiral ramp at floor level. There atrium over the entire surface of galleries to display and provide physical activity for children.</td>
</tr>
</tbody>
</table>

And analysis of the samples examined:

**Diagram 1-33** index component in architectural design spaces for children

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature</td>
<td>9.5</td>
</tr>
<tr>
<td>Light</td>
<td>9.5</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>9.5</td>
</tr>
<tr>
<td>Circulation</td>
<td>9.5</td>
</tr>
<tr>
<td>Spatial varieties</td>
<td>9.5</td>
</tr>
<tr>
<td>Color</td>
<td>9.5</td>
</tr>
<tr>
<td>Date</td>
<td>9.5</td>
</tr>
<tr>
<td>Identity</td>
<td>9.5</td>
</tr>
<tr>
<td>Culture</td>
<td>9.5</td>
</tr>
<tr>
<td>Inviting</td>
<td>9.5</td>
</tr>
</tbody>
</table>
Figure 2.3 the components of the index upward trend in architectural design spaces for children

<table>
<thead>
<tr>
<th>Component</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture</td>
<td>10</td>
</tr>
<tr>
<td>Light</td>
<td>7</td>
</tr>
<tr>
<td>Identity</td>
<td>5.5</td>
</tr>
<tr>
<td>Circulation</td>
<td>6</td>
</tr>
<tr>
<td>Aesthetics</td>
<td>5</td>
</tr>
<tr>
<td>Date</td>
<td>5</td>
</tr>
<tr>
<td>Spatial Varieties</td>
<td>5.5</td>
</tr>
<tr>
<td>Nature</td>
<td>6.5</td>
</tr>
<tr>
<td>Color</td>
<td>7</td>
</tr>
</tbody>
</table>

References: author

The Activities Within the Project:

<table>
<thead>
<tr>
<th>Year</th>
<th>1994</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author</td>
<td>Nazarinezhad, H. Aylin, Hart, B.</td>
</tr>
<tr>
<td>Books (paper)</td>
<td>Pre-school education</td>
</tr>
<tr>
<td>Source</td>
<td>Astan Quds Razavi, Second Edition</td>
</tr>
<tr>
<td>Title</td>
<td>Indoor activity</td>
</tr>
</tbody>
</table>

The lack of space limited by high walls and divided by walls and counters the growth and creativity of children is raised. Restrict minors caused abnormalities in the child's character and sense of doubt in him. The child will doubt their abilities and sense of confidence and loses its independence.

Each class requires a space that is empty of any structural elements, outdoor use and has no restrictions. Each section can be large or small as needed, and most of them employed in hours of operation. It should be noted that the paths are designed in such a way that it will not interrupt.
the space and the space shuttle in space does not come for free. Partition model and the wall must be such that the guys put a more intimate spaces and cozy at the same time the teacher saw the guys in this space is not blocked.

**Classification of Education**

- Educational materials related to the activities of teacher-made
  - Music
  - Story
  - Language
  - Special events
- Educational materials related to self-help
  - Dress resting
  - Go to the bathroom
  - Eat
  - Sort of room and collect objects
- Educational materials for discovery learning
  - The cubes
  - The manual skills
  - Exploratory Arts section
  - The housework
  - The section on special interests

**Discovery learning training materials for indoor activities**

- The Arts Initiative: (the crafts)
- Housekeeping section (section bases imaginary)
- The cube (part of the game collective)

In this section, what is particular useful for the large table in the middle of the room with the tools needed and categorized for different activities on it. To be able to fully play the role of their children, the housework as much as possible to be separated from other parts of commuting accidents for children in this section will not interrupt the other children. The housekeeping usually short fences and walls in the corner and carrying it separates the room from the rest. An open space on the floor with shelves carrying on one or both sides of it. Based on the size and shape of cubes on the shelves instead charge of. Children can shapes and sizes that are needed for the building of their choice and your imagination to reality.

According to Hart, the author of the source table

**EVALUATION OF OUTDOOR ACTIVITIES:**

**Table 5.1** Evaluation of activities outside the building
Space and attention to the game including the most important areas is essential because it can be said that one of the attractions that brought the child at the center of this play space (such as game). At least half of the space should be exposed to the sun. Meanwhile, in the free atmosphere of the game, should be provided with devices that can provide needed shade. So that the land must be divided into different age groups for children with appropriate means commensurate with the building, playground equipment, landscaping and boundary characteristic of such requirements, and they are almost indistinguishable if the children can hear each other's voices as well as each other see (Ayline et al., 1994).

According to Hart, the author of the source table

**SPACE CHARACTERISTICS AND LEVELS OF PLAY:**

**Table 6-1** Study activities outside the building

<table>
<thead>
<tr>
<th>Year</th>
<th>Author</th>
<th>Books (paper)</th>
<th>Source</th>
<th>Characteristics and levels of play space</th>
</tr>
</thead>
</table>
| 1994 | Nazarinezhad, H. Aylin, Hart, B. | Pre-school education | Astan Quds Razavi, Second Edition 1994 | According to the opinion of psychologists "game" is an activity when the five properties are met:  
• Do not intrinsically and motivate.  
• Participate in it freely and not forced.  
• It is actively participating in such a manner.  
• Is enjoyable and fun.  
• Levels of pretense and imitation, and in this way the child employ the power of your imagination (Izadpanah Jahromi, 2004). |

According to the author Izadpanah Jahromi

**VIEW SPACE FOR DIFFERENT AGE GROUPS:**

**Table 7.1** Specifications space for different age groups

<table>
<thead>
<tr>
<th>Year</th>
<th>Writer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>Izadpanah Jahromi Aida</td>
<td></td>
</tr>
</tbody>
</table>
**Books (paper)**

**Child play city**

**Title**

View space for different age groups

**Profile playground for the age group 0-3 years**

Activity: ball games, fantasy games, according to knowing things, running and walking.

Equipment: bags of sand, place flowers game, small game devices, and portable devices.

Location: indoors or outdoors, lawn work or the floor and without stairs and dangerous angle.

Minimum Space: about one square meters for each child.

**Activity:**

- Ball games
- Fantasy games
- According to knowing things
- Running and walking

**Equipment:**

- Bags of sand
- Place flowers game
- Small game devices
- Portable devices

**Location:**

Indoors or outdoors, lawn work or the floor and without stairs and dangerous angle.

**Minimum Space:**

About one square meter for each child.

**Profile playground for the age group 6-11 years**

Activity: ball, running

Equipment: Goods for land-based game full of sand, creating a solid ground for painting and skating.

Location: land to set up tents open and closed positions, lawn work or the floor without stairs or dangerous angle.

Minimum space: about 2 square meters for each child.

**Activity:**

- Ball
- Running

**Equipment:**

- Goods for land-based game full of sand
- Creating a solid ground for painting and skating

**Location:**

Land to set up tents open and closed positions, lawn work or the floor without stairs or dangerous angle.

**Minimum Space:**

About 2 square meters for each child.

**Profile playground for the age group 7-11 years**

Activity: ball games, and free games and fields of grass or the floor.

Equipment: Pathways to sports games, building games, workshops for foster artistic creativity.

Location: Outdoor, Lawn, or the flooring.

Minimum space: about 3 square meters for each child.

**Activity:**

- Ball games
- Free games
- Fields of grass or the floor

**Equipment:**

- Pathways to sports games
- Building games
- Workshops for foster artistic creativity

**Location:**

Outdoor, Lawn, or the flooring.

**Minimum Space:**

About 3 square meters for each child.

B adopted from author: Izadpanah Jahromi

**SPACE ADVENTURE GAME:**

**Table 2.1 Space adventure game**

<table>
<thead>
<tr>
<th>Year</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>the writer</td>
<td>Jean Piaget</td>
</tr>
</tbody>
</table>

**Books (paper)**

Games and emotions of childhood

**Source**

London, 383, pp. 146-150.

**Title**

View space for different age groups

**Playground of adventure**

Earth adventurer, who prepared the earth closed with variable dimensions, some objects and various building materials and the children had been left in it so they can use your creativity with the construction of cottages, they strengthen the gardening and ... .

This type of game is just a small hut or shelter against rain is needed that can be used as a warehouse for the ongoing work of the seasons be considered if it can be place with a minimum area of 100 square meters where was built. Children of such lands to build and create new forms and arrangements that called for flexibility with their cognitive, social, and physical growth of children in a very effective medium.

**Green space adventure game**

In these spaces, natural areas informally with their size, diversity and variability, creativity and knowledge of local natural conditions are favorable. The lack of clear structures and all of these fields, to develop children's imagination and imagine that.

Game environment in such a situation must flow from one environment to another in an endless manner and as simple as encouraging children's creativity flourish. The key to success in such places, the participation of users in the design process. This land could be multi-purpose building two or three rooms for socio-cultural activities would be beneficial.

According to Jean Piaget by the author

**CLASSIFICATION RECREATIONAL ACTIVITIES FOR CHILDREN 6 TO 12 YEARS OLD:**
Table 2.2 Classification recreational activities for children 6 to 12 years old

<table>
<thead>
<tr>
<th>Classifciation Activities</th>
<th>Facilities and activities elements</th>
<th>Type of activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence in communities and nature</td>
<td>Walls and the flooring to play and write in a closed area with tables and chairs, arbor.</td>
<td>Collaboration, knowledge with others, plays a role.</td>
</tr>
<tr>
<td>Creativity, visualization</td>
<td>Lunch - coffee, library, open space with benches.</td>
<td>Study and relax.</td>
</tr>
<tr>
<td></td>
<td>Dramatic free space.</td>
<td>Attend theater (as an actor and spectator).</td>
</tr>
<tr>
<td></td>
<td>Proscenium, small house, ship and train, jeep.</td>
<td>Story alive.</td>
</tr>
<tr>
<td></td>
<td>Circus - theater, puppetry, and children's theater.</td>
<td>Watching the outdoor show.</td>
</tr>
<tr>
<td>Physical and motor</td>
<td>stairs, different levels of stairs, different levels of</td>
<td>Jumping up and down, dangling.</td>
</tr>
<tr>
<td></td>
<td>Lake dock jet stream.</td>
<td>Water play.</td>
</tr>
<tr>
<td></td>
<td>Swing ropes, nets, axes fixed and mobile balance for mobile bridges, carousels.</td>
<td>Suspended in the air, rocking motion, balancing.</td>
</tr>
<tr>
<td></td>
<td>Volumes of shape, pipe tunnel labyrinth.</td>
<td>Running- discover - hidden and revealed.</td>
</tr>
</tbody>
</table>

Consulting Engineers environmental tests by author

PHYSICAL PLANNING ARCHITECTURE

Diagram 1 - Architectural fabric planning

SAMPLE OF OUTDOORS IN COLLECTION

Diagram 1-1 diagram of sample of outdoors in collection
- ALTERNATIVES OF DESIGN
Alternative No. 1

<table>
<thead>
<tr>
<th>Images</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>![Image 1]</td>
<td>![Image 2]</td>
</tr>
</tbody>
</table>

Features

- Command Flexible with the use of curved lines has enjoyed a good spatial diversity
- Additional sections form a center and can be designed for specific spaces

<table>
<thead>
<tr>
<th>Defects of design</th>
<th>Advantages of design</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is high level of design and waste more energy</td>
<td>Interior design scheme of diversity is more space.</td>
</tr>
<tr>
<td></td>
<td>- Attractive and inviting form</td>
</tr>
<tr>
<td></td>
<td>- Balance form with function set</td>
</tr>
<tr>
<td></td>
<td>- Flow and circulation in the direction and sense of movement to the audience</td>
</tr>
<tr>
<td></td>
<td>- Readability and flexibility in the approach to set design (creativity)</td>
</tr>
</tbody>
</table>
Images

Features

Children atmosphere using soft lines and curves and form Mntf-
Taking advantage of children's creativity in design concept form set
Design spaces dedicated to galleries to display works of children

<table>
<thead>
<tr>
<th>Defects of design</th>
<th>Advantages of design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of ease of implementation of the plan</td>
<td>Fitness series form with function</td>
</tr>
<tr>
<td>The need for skilled workers to run</td>
<td>A variety of medical areas</td>
</tr>
<tr>
<td>Costly implementation of the plan</td>
<td>Fermi visual appeal</td>
</tr>
<tr>
<td>Time on the implementation of the plan</td>
<td></td>
</tr>
</tbody>
</table>

SELECTING THE BEST ALTERNATIVE

<table>
<thead>
<tr>
<th>Alternatives</th>
<th>Alternative 1</th>
<th>Alternative 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>economy</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>form</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Conception</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Performance</td>
<td>-</td>
<td>✓</td>
</tr>
<tr>
<td>Proper movement circulation</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
**DESIGN PROCEDURE**

**Description**

The main idea of the project was the way children play the game at an early age due to the growth of the child's creativity as well as a special plan for children is the formal and the creativity of children in the appropriateness of tradition.

**Image**

**Main idea**

**SUGGESTED DESIGN FOR CHILDREN HOUSE**
-Suggested design for children house

<table>
<thead>
<tr>
<th>Images and documents of suggested designs</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Ground Floor Plan" /></td>
<td>Plan ground floor consists of entrance space, lobby sets, outdoor painting, children's theaters, restaurants and galleries child. The spaces are located radially around the original volume set. Home Mrkzhjm outdoors paintings that focus on creative activities for children.</td>
</tr>
<tr>
<td><img src="image2.png" alt="Ground Floor Plan" /></td>
<td>The first floor plan includes an amphitheater, a chapel, administrative area and dining room staff is set up and design of green spaces within the complex.</td>
</tr>
<tr>
<td><img src="image3.png" alt="Sec A - A" /></td>
<td>Stage of the project that show the relatively low height given the scale of the project is children and children's furniture.</td>
</tr>
<tr>
<td><img src="image4.png" alt="Design perspective" /></td>
<td>Design perspective, especially children who are associated with the site plan at site plan of exhibition space, children's play tunnel, designed for children to play platonic shapes, showing open space and green areas cover most of the site plan.</td>
</tr>
</tbody>
</table>
In this part of the site for the Platonic solids collection is designed and intended for children is that children can see and touch the volumes closely with them to the game that this way of creativity in children house

Input using a soft curved lines and is designed to move and inviting sense of rhythm and repetition to induce a form. Flooring designed specifically for children, along with enjoying the lively colors and childlike using a circular form, space for togetherness and a sense of collective game on the child.

Show design space and an outdoor theater for children in the natural environment of the site, enabling performance in the natural environment that provides children a childish display space is open and makes sense of excitement and enthusiasm for children to run and watch the natural environment sustains a relationship with the surrounding natural environment.

Children's play area with games designed furniture, play equipment, children's play equipment (slides, swings, etc.) space for play and entertainment and children are together and enjoy the type and manner for children, causing your child's creativity

Children's drawings and art space designed to show the effects of child growth in this space makes sense to encourage children's artistic talent and competitive exhibition of children's children, and draw
CONCLUSION

Given that the most important stage of life, from childhood to the formation of human character, spaces designed for children with mental and physical characteristics of children's knowledge, understanding children's needs required architectural spaces, by analyzing examples of architecture children the spaces of childhood by using components such as color, scale and children's furniture, a variety of spaces, inviting and readability spaces, the design of circulation, access suitable for children with the architectural design galleries and studios child, play spaces indoor and, children's library, children's theaters enjoying a theatrical art activities, storytelling to promote children's creativity. The results can be child-centered design or architectural design that most users of space, children are utilized.

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A STUDY ON NUMERICAL SIMULATION OF OPENING HEIGHT OF DENSE FLOW INLET ON DENSE FLOW CHARACTERISTIC PARAMETERS

Nader Berahmand
Department of Civil Engineering Larestan Branch, Islamic Azad University, Iran

Arash Jaael
Department of Civil Engineering Larestan Branch, Islamic Azad University, Iran

Mohammad Janparvar
Department of Civil Engineering, Islamic Azad University of Larestan, Iran

ABSTRACT
Thick currents are produced where density differences exist between the fluid and the fluid layers. This density difference may be appeared by various mechanisms, such as temperature, salinity and flow of sediment-laden river in case of flooding into the aquatic environment. Such flows make up one of mechanism of sediment transport mechanisms in reservoirs, lakes, seas and oceans. In this study, the effect of valve size (the size of current input density) are examined on the dense flow characteristics. For this purpose, laboratory studies of Hosseini (2006) was used for calibration of fluent numerical model. In this research, a section located at a distance of 5 meters from the sluice gate was used in order to calculate and consider the effect of the valve on dense flow characteristics. The results showed that in a fixed gate opening height increased initial velocity, flow rate and thickness of the dense flow is reduced. Meanwhile, in an amount fixed initial velocity, by increasing the amount of valve opening, discharges and thick dense flow increases.

Keywords: dense flow, numerical simulation, Fluent, the thickness of the flow of dense, dense flow rate

INTRODUCTION
The most important factors of sedimentation in reservoirs, streams are thick or dense. Basically, the flow of a fluid density can be input has turned into a mass density of the fluid with a different density, gravity due to the difference in specific gravity defined. Variations in density may be due to suspended solids, dissolved solids, temperature, or combination. Figure 1 how the formation and flow in the reservoir shows dense opaque. The maximum concentration of these flows occur during floods, which resulted in the creation of a muddy lake near the dam structures have been deposited and this has impairs the performance of intake and output floor. (Sloff 1999)
Ellison and Turner (1959) for the first time on the analytical and experimental studies conducted within the dense mixture flow. Ellison and Turner with salt water solution for two-dimensional experiments for the first time to verify the theories governing this process began and could relation to the mixing of flow at the intersection of Richardson provide dense in terms of number. Further, the Alavian (1986) conducted experiments on water-salt solution for three-dimensional viscous flow of payments. Garcia (1994), studies the effect of slope on the flow behavior of dense turbulent did. He indicated that turbidity currents and salt water having the same initial conditions, almost before and after internal hydraulic jump are the same structure. Firoozabadi et al (2001) experiments with brine and stream containing kaolin and limestone were used in different concentrations.

Also, kernel (1997) and Hussain (2006) test three dimensional turbidity currents and slopes and discharges were different. For the first time Felix (2004) using numerical methods showed that the mean flow velocity density almost equal to half the maximum velocity at any point during the same period. Choi in 1998, an average model layer two-dimensional finite element numerical solution developed turbidity currents. Imran and colleagues in 1998 averaged just two-dimensional equations for turbidity currents in deep solved. Rafat et al (2014) investigated the effects of density, scour the pipeline and offer several models to estimate and compare them with each scour the pipeline, respectively. Dense flows, the performance of the reservoirs Sefidrood, Dez, Minab and Latian in Iran is disrupted. Due to the dense flows threatened reservoirs and reduce the quantity and quality of water reservoirs and dams dysfunction, study and understanding of hydrodynamic behavior and the factors affecting these flows is necessary. Therefore, in this study that investigated the effect of density altitude gate opening on the flow characteristics.

METHOD

A) The equations governing the flow field

The average - Reynolds equations conservation of mass and momentum for a non-permanent dense flow is as follows:

\[
\frac{\partial \rho}{\partial t} + \frac{\partial (\rho U_j)}{\partial x_j} = 0
\]

(1)

\[
\frac{\partial (\rho U_j)}{\partial t} + \frac{\partial (\rho U_j U_i)}{\partial x_i} = -\frac{\partial P}{\partial x_j} + \rho g_j + \frac{\partial}{\partial x_j} \left( \mu \frac{\partial U_j}{\partial x_j} - \rho U_j' U_j' \right)
\]

(2)
That $U_i$ and $U_j$ average velocity vector components- Reynolds dense Cartesian directions $x_i$ and $x_j$, $t$ times, $P_i$ medium-to Cartesian Reynolds $x_i$, $\rho$ and $\mu$ viscosity fluid dynamics are thickening fluid density. Reynolds stress also reduced gravity – $\rho U_i U_j$ and are calculated as follows $g'_i$, respectively. It should be noted that Reynolds stress using Boussinesq theory are obtained as follows.

$$-\rho U_i U_j = \mu_t \left( \frac{\partial U_i}{\partial x_j} + \mu \frac{\partial U_j}{\partial x_i} \right) - \frac{2}{3} \left( \rho K + \mu_t \frac{\partial U_i}{\partial x_j} \right) \delta_{ij}$$  \hspace{1cm} (3)

$$g'_i = g_i \frac{\rho - \rho_a}{\rho_a}$$  \hspace{1cm} (4)

That $\rho_a$ environmental fluid density (water here is clean) $\delta_{ij}$ Kronecker delta and $K$ is confusion kinetic energy. In addition acceleration of gravity is $g$, and for $i = 1, 2, 3$ is equal to $(g \sin \theta, -g \cos \theta, 0)$, $\theta$, the slope of the channel bed. In addition eddy viscosity is $\mu_t$ at a model $K - \varepsilon$ of about $\mu_t = \rho C_{\mu} \frac{K^2}{\varepsilon}$ results that turbulent kinetic energy dissipation rate $\varepsilon$ and $C_{\mu}$ proved the equation.

It should be noted that in addition to the above-mentioned equations, mass conservation equations deposits (or soluble material) in a non-permanent dense flow is as follows:

$$\frac{\partial (\rho C)}{\partial t} + \frac{\partial (\rho U_i - v_i \delta_{ij})}{\partial x_j} = \frac{\partial}{\partial x_j} \left[ \left( \rho \lambda + \frac{\mu_t}{S_c} \right) \frac{\partial C}{\partial x_j} \right]$$  \hspace{1cm} (5)

That $\lambda$ fluid diffusion coefficient, $v_i$ sediment fall velocity (the soluble amount is zero) and $\delta_{ij}$ component in the opposite direction of gravity is the Kronecker delta. Also turbulent Schmidt number is $S_c$. This number affected as Prandtl number of floats. But often times the amount it flows thick unit considered.

In addition $C = \frac{\rho - \rho_a}{\rho_a}$ - average Reynolds concentration of salt sediment or suspended sediment density current density is $\rho_a$. (Or salt)

It should be noted that the pressure in the momentum equation $P$, at a distance $y$ of the substrate obtained from the following relationship:

$$\frac{P}{\rho_a} = \frac{P_a}{\rho_a} - g \left( H - h \right) + \rho g \left( H - y \right)$$  \hspace{1cm} (6)

That $P_a$ free fluid pressure at a depth of $H$ environmental and fluid environment, taking into account the thickness $h$ is dense.

Finally, it should be mentioned that turbulence models are of great diversity.

Some of these models can be zero-equation model (such as Prandtl mixing length model, the model of Baldwin and Lomax and mixing length mixing length model that ABC and Smith) standard two-equation models $k - \varepsilon$, $k - \varepsilon$ models of type RNG, Model $k - \varepsilon$ achieved ADJ modified model $k - \varepsilon$, model $k - \varepsilon$ for low Reynolds numbers, model $k - \omega$, model $v^2 - f$, model Reynolds stress equation RSM, algebraic stress model ASM, RNG model and scale model large eddy simulation LES cited.
But in this study, only the standard \( k - \varepsilon \) models available in the fluent software is used for simulation.

**B) Modeling**

The present study was performed using the fluent software. In addition tests Hosseini (2006) for computational fluid dynamics software fluent numerical model calibration were used. Laboratory channel geometry Hosseini (2006) using Gambit 2.4.6 software were drawn. In addition Quad quadrilateral mesh using the volume controls and the type carried Map. This type of mesh is structured meshing.

Free surface of fluid to the environment and the current output, the output pressure boundary condition Pressure outlet, at the gate at the border of the channel bed and the wall Wall and under slide valve in the inlet velocity boundary condition was considered Inlet velocity. Velocity, volume concentration and thickness of the dense flow at the inlet (in the slide valve) the data and the information it Hosseini (2006) were used.

**Results and Discussion**

**A) Calibration of the numerical model fluent**

It should be noted that on the on laboratory studies Hosseini (2006) numerical studies have been done, which results in this section for model calibration results Shabani Sabzeh Meidani (2012) is used.

Shabani Sabzeh Meidani (2012) for calibration of being independent of the type of mesh, 5 types of mesh was used. Finally, given that speed and volume concentration vertical profiles, policies with dimensions of 48 x 1200 (1200 divided by 48 divided in the direction of the channel length in the vertical direction) was chosen as the optimum mesh the mesh will be used in the present study.

In addition results of numerical Shabani Sabzeh Meidani (2012) Numerical results obtained showed that \( k - \varepsilon \) of the RNG model with experimental data showed that the best compatibility. Therefore, in the present thesis was tried with this type of mesh and the turbulence models used for numerical modeling.

**B) The effect on the flow characteristics gate opening height of dense**

In this study, two experiments 5 and 6 Hosseini (2006) was used. Both of these tests are cm with a height of valve opening. In addition of heights cm thick slide valve opening (valve lower altitudes) 2, 3, 4, 5 and 6 cm were used. In addition to the initial speeds of 16.67 and 25 cm from the initial velocity of centimeters per second 12.5 was used.

In other words, gate opening height of six different values for three different values of numerical modeling was done quickly. A total of 18 numerical model in this regard were prepared that results of the models listed below.

The effect of these parameters on the flow rate measured in cross section (section placed at a distance of 5 meters from gate) in table (1) is shown.

As can be seen computational flow rates (measured in cubic centimeters per second) in the fourth column of the table above is shown. Since the models I and II represent numerical experiments are 6 and 5 Hosseini. (2006) for fluent model performance testing, laboratory values of these two models listed in the fifth column of the above table.

As can be seen, the calculated values are close to experimental data, So that errors are about 2 percent with a minus sign. In other words the amount of error is negligible. In addition calculated flow rates
less than those of his lab are low density. Therefore, we can trust the results of the numerical modeling.

It should be noted that since the other numerical (16 numerical model residual) value of no laboratory. Therefore, for these 16 columns lab value and percent error-free data model and information.

Q calculated values show that the first gate opening fixed at a height h0 increased initial velocity u0, dense flow rate increases. The reason could also increase the supercritical Froude number and therefore more dense flow. It should be noted that the flow of supercritical density is more dense flow mixing with clean water increases your high that the increasing discharges at initial speeds higher causes. This gate opening at all levels of up to six cm.

In addition initial velocity u0 in an amount fixed by increasing h0, dense flow rate Q increases. Also in seventh column of the above table values %d-h0 is shown. This parameter represents the percentage difference between the amount Q calculated at constant u0 Initial rates, but with different h0 by the amount of Q calculated in h0 equal to one centimeter. In other words, gate opening height reference value was assumed equal to one centimeter and the effect of opening height on the Q calculation for this parameter is shown.

In other words, this parameter values in the model between 4640 and 2380 (4) the percentage of error that finally 48.71 percent is obtained. In other words, the initial velocity of 25 centimeters per second by increasing the gate opening from one to two centimeters, dense flow rate measured at the level of the amount of 48.71 per cent.

As can be seen from column% d-h0% increase generally less dense flow does not change by changing the initial velocity U0, but by increasing the flow rate of the high-density gate opening is h0 percent. So the gate opening height of one to six centimeters value of this parameter increases to approximately 80%.

| Table 1. Effect of the lake as well as high initial velocity on flow rate Q measured density level |
|--------------------------------------------------|----------------------------------|----------------------------------|------------------|------------------|------------------|------------------|------------------|
| Explanation                                      | %d-h0 | Percent of Error | Q (cm³/S) Laboratory | Q (cm³/S) Computational | u0 (cm/s) | h0 (cm) | Number of model |
| Experiment 6 of Hosseini (2006)                  |       | -2.11            | 2431.42               | 2380.00               | 25        | 1       | 1               |
| Experiment 5 of Hosseini (2006)                  |       | -1.83            | 1334.62               | 1310.26               | 16.67     | 1       | 2               |
|                                                  | 0     | 835.00           | 12.5                  | 12.5                  | 1         | 1       | 3               |
|                                                  | 48.71 | 4640.00          | 25                    | 2                     | 4         | 4       | 6               |
|                                                  | 48.29 | 2533.84          | 16.67                 | 2                     | 5         | 5       | 7               |
|                                                  | 48.77 | 1630.00          | 12.5                  | 2                     | 6         | 6       | 8               |
|                                                  | 64.10 | 6630.00          | 25                    | 3                     | 7         | 7       | 9               |
|                                                  | 64.69 | 3710.74          | 16.67                 | 3                     | 8         | 8       | 10              |
|                                                  | 65.10 | 2392.50          | 12.5                  | 3                     | 9         | 9       | 11              |
|                                                  | 72.58 | 8680.00          | 25                    | 4                     | 10        | 10      | 12              |
|                                                  | 73.23 | 4894.31          | 16.67                 | 4                     | 11        | 11      | 13              |
|                                                  | 73.15 | 3110.00          | 12.5                  | 4                     | 12        | 12      | 14              |
|                                                  | 77.91 | 10775.00         | 25                    | 5                     | 13        | 13      | 15              |
|                                                  | 78.11 | 5984.53          | 16.67                 | 5                     | 14        | 14      | 16              |
|                                                  | 77.88 | 3775.00          | 12.5                  | 5                     | 15        | 15      | 17              |
|                                                  | 81.42 | 12810.00         | 25                    | 6                     | 16        | 16      | 18              |
|                                                  | 81.29 | 7001.40          | 16.67                 | 6                     | 17        | 17      |                 |
|                                                  | 81.07 | 4410.00          | 12.5                  | 6                     | 18        | 18      |                 |
| Minimum                                          | 0.00  | 835.00           | 12.5                  | 1                     |           |         |                 |
Also effect of these parameters on the amount of thickness $h$ dense flow at the point of measurement (section located at a distance of 5 meters from gate) in Table 2 is shown. As can be seen, the calculated values are close to experimental data so that errors are less than 3% with a negative sign. In other words the amount of error is negligible. In addition numerical values of $h$ dense flow is less than laboratory values. Therefore, we can trust the results of the numerical modeling.

Values of $h$ calculated shows at a fixed gate opening height $h_0$ increased initial velocity $u_0$, $h$ the dense flow is reduced. This gate opening at all levels of up to six cm. In addition initial velocity $u_0$ in an amount fixed by increasing $h_0$, $h$ increases the thickness of the dense flow.

Also in seventh column of the above table values% d-$h_0$ is shown. This parameter represents the percentage difference between the value of $h$ Initial rates computational constant $u_0$, but with different $h_0$ calculated by the amount $h$ in $h_0$ equal to one centimeter. In other words, gate opening height reference value was assumed equal to one centimeter and the effect of increasing on opening height $h$ value calculated for this parameter is shown.

In other words, the value of this parameter in the model (4) the percentage of error between 12.28 and 10.86 is values that ultimately 15.29 percent is obtained. In other words, the initial velocity of 25 centimeters per second by increasing the gate opening from one to two centimeters, $h$ value measured dense flow in schools has increased the amount of 15.29 percent. As can be seen from column% d-$h_0$ except on opening height equal to two centimeters, percentage changes are generally $h$ dense flow does not change by changing the initial velocity $U_0$, but by increasing flow high-density gate opening $h_0$ $h$ is the percentage change. So that the gate opening height of one to six centimeters value of this parameter increases to approximately 55 percent.

<table>
<thead>
<tr>
<th>Explanation</th>
<th>%d-$h_0$</th>
<th>Percent of error</th>
<th>Q (cm³/S) Laboratory</th>
<th>Q (cm³/S) Computational</th>
<th>$u_0$ (cm/s)</th>
<th>$h_0$ (cm)</th>
<th>Number of model</th>
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Table 2. Effect of the lake as well as high initial velocity measurement of on thickness of flow dense point $h$
CONCLUSION
Experiments No 5 and 6 of the studies Hosseini (1385) to evaluate the effect of density was used valve flow characteristics. These experiments with a slope of 2%, the initial concentration of the input 0.055 grams per cubic centimeter, 20 and 30 liters per minute flow of raw, gate opening height h0 1 cm, U0 16.67 and 25 centimeters per second of raw speed and Froude number If accepted early 9.525 and 14.286. The results of numerical modeling with Fluent showed that for two experiments 5 and 6 Hosseini (2006) numerical results is close with experimental results. Debbie Shows calculated values at a fixed gate opening height h0 increased initial velocity u0, dense flow rate increases. In addition initial velocity u0 in an amount fixed by increasing h0, dense flow rate Q increases. Generally percent less dense flow does not change by changing the initial velocity U0, but by increasing the flow rate of the high-density gate opening is h0 percent. So that the gate opening height of one to six centimeters value of this parameter increases to approximately 80%. Values of h dense flow calculation shows that the thickness at a fixed gate opening height h0 increased initial velocity u0, h value dense flow is reduced. The initial velocity u0 in an amount fixed by increasing h0, h increases the thickness of the dense flow. Except for the opening of two cm height, generally less dense flow by changing the initial velocity U0 h percentage does not change, but by increasing flow high-density gate opening h0 h is the percentage change.

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A REVIEW ON THE IDENTITY IN IRANIAN ARCHITECTURE (CASE STUDY: NAQSH-E JAHAN SQUARE IN ESFAHAN)

Hamed Hayaty
Preceptor of Department of Architecture, Ahvaz Branch, Islamic Azad University, Ahvaz, Iran
hamedhayaty@yahoo.com

Zahra Fazeli
Student of Department of Architecture, Ahvaz Branch, Islamic Azad University, Ahvaz, Iran

Nima Alipoor
Student of Department of Architecture, Mahshahr Branch, Islamic Azad University, Mahshahr, Iran

ABSTRACT
Architecture has inherent, dynamic and progressive characteristics which are called identity, despite differences of the land that had have several impacts on it. "Identity" is from the fundamental concepts and topics that its different levels and manifestations are concerned as a serious and major need for all human beings (people and communities). One of the authentication grounds and factors of a society, especially its civilization cause, are man-made works that the most obvious manifestation of these works are the cities and consequently, urban spaces and elements. Recognition of identifier characteristics and factors of Naqsh-e Jahan square as an urban space of Iranian civilization is the main subject of this paper. In this paper, it has been examined the formation and transformation of Naqsh-e Jahan square as an urban area and an urban element from the inception to the present time. The aim of this study was to document these developments and to learn experience of interventions that have been made in this square. The research method was descriptive - analytical and based on historical texts and in some cases through field data in the place.

Keywords: Identity, Esfahan, Identity of Architecture, Iranian Architecture, Naqsh-e Jahan Square

INTRODUCTION
Socially, cities are suitable places for the formation of social institutions, promotion of cultural values, expansion and consolidation of social relations and safeguarding human values and national and local identities. So one of the authentication areas and factors and in particular the collective, cultural, historical and civilizational authentication of a society and its members are its civilizational and man-made works that one of the most obvious manifestations of these works are the cities and consequently, urban spaces and elements (Naghizadeh, 2007). Cities are indicating the identity of their creators whether as a whole or in its parts, so that the identity of a society members can be realized in intellectual and cultural terms by walking through the city. This identity means attributes and features that distinguish the city from the other, as a person is different from another person as well as a society with another society. Different elements can be considered as an identity indication of a city that each has its outward frame and specific meaning and these indications have to be checked to find out the identity of a city. Lack of identity, lack of coordination and uniformity in urban spaces are increasingly expanding todays and have made adverse landscape and an unfamiliar environment to residents and have covered all aspects of social life in urban areas, all are the results of inattention to these identity indication factors.

One very important factor among these identifying factors which is considered less todays is the relation between urban identity and human identity. This relationship is in such a way that it can be said: "urban spaces and elements in every society are manifestations of the identity of people in that community and civilization showing thought and cultural principles of the community in addition to
its frame and appearance. So those types of cities and urban spaces and elements that can be appeared as a representation of the principles and values derived from the culture and history of the society and be continued playing the role as a specific expression of the principles and values introducing their owners and creators would be recognized as a brilliant element of that civilization and society" (Naghizadeh, 2007). And if it's not true and the principles and values are ignored, the civilization will deteriorate gradually over time.

Squares have always been an important element in the structure of historical cities and contain several types. In the meantime, urban squares have been considered as the most important and the main square of the city where the most important urban gatherings and social events were there in addition to focus of commercial, governmental and religious activities. It can be noted to the most important and most famous Iranian historic urban squares including old squares of Esfahan in the Seljuk era, Sahib-Abad square of Tabriz in Mongols era, Amir Chakhmaq square in Yazd in Timurid period, Shah square of Qazvin and Naqsh-e Jahan Square in the Safavid era and Toukhaneh square of Tehran in Qajar period that each has had a long and rich history. Meanwhile, Naqsh-e Jahan square is considered as the most significant and the most famous historical urban squares of Iran which has been highly regarded by Iranian and foreign tourists and travelers since inception up to now. The present study dealt with the relation of human identity and its works after addressing the sense of identity and its representation in architecture and attracted attentions to human thinking as the identifying factor for all the work, including the city and examination of the constituent elements of Naqsh-e Jahan square in Esfahan as an identity - cultural element would introduce some of its identity effects.

This study explored some of the most important historical resources and documents and has studied the status of the square as an urban element and an urban space in five major historical periods of the Safavid, Qajar, the first Pahlavi and the second Pahlavi and the Islamic Republic of Iran.

IDENTITY

First of all, it should be pointed out that identity is neutral such as culture, personality and many other concepts that must be evaluated by good and bad criteria. In other words, we have no anonymous person, object, architecture or urbanism and what exists is good identity or bad identity objects, architecture or urbanism. It has been said on the meaning of identity that: "identity means the individuation of existence and essence and what led to the identification of the person" (Moin, 1996). Thus, the identity of anything is distinguishing factor of the object with other things. Late Dehkhoeda also brought within the meaning of identity that: "identity is to recognize and this is known among philosophers and theologians. Identity refers to an external existence sometimes, and sometimes refers to the nature with the recognition that includes the part truth"(Dehkhoeda, 1999). Mulla Sadra knew identity of any creature as the specific way of its existence: the identity of any creature includes as the specific way of its existence, the identity is unique in human that is regarded to the different aspects. Individuals have characteristics by which they are distinct from each other and character unity will remain in them to the end of life which is identity (Eghbali, 1999). Amid dictionary spoke about the identity as "including substantial attributes"and Moin dictionary defined identity as "what helps identifying a person or an object". Oxford dictionary knows the identity as whom and what a person is (Oxford, 2008). The interesting point in this context is that the identity in relation to human is not something pre-existing, but it becomes always fresh and new. The above definition implies that everything is seen around us, including the people and all the artworks, architecture and urbanism have their own identity. Identity of phenomena will be measured in different intellectual systems with different criteria and man's thinking and approach to the world around and its analysis offers a different perspective of identity. So any ideology or idea will have its own value criteria, which can be stable and unstable, and according to these values, determined or undetermined criteria would be as assessment criterion of the identity. For traditional (religious) human, identity is a belief that forms through faith in the unseen that is produced and settled by its thoughts, deeds and behavior, while modern (secular) human makes its identity by its help. The identity is unite and divine in traditional society and Motekasr and acquired in modern society. In the traditional view, the human identity is prior to its existence and the existence is prior to identity in modern views (Hojat, 2005). So if
representing another approach to the produced works by having a particular worldview and attitude to the world and affected identity from that, for example, representing secular identity despite having religious identity; an obvious contradiction has been revealed and this lack of correlation between appearance and reality can be cited as an identity crisis, so that if separating a little from our daily lives and contemplating, it can be felt the lack of belonging to urban or architectural space that we are within it, like a plant that is not rooted in the ground.

IDENTITY IN ARCHITECTURE
The identity can be considered as an expression of culture in the environment, because places get the meaning from the human being and the human is a set of beliefs and ideas that shapes its culture and the expression and representation of the of human culture can be seen in the environment and place which is the identity. The cultural environment of city is less perceptible today and this is not as an inspiration for artists any longer. The modern city does not provide adequate facilities for living. Streets and squares are not no longer a place for social gathering, but they are merely a means of communication. Shack, city and country do not give what are superior values for human meant social belonging and cultural products. Perhaps the space is neutral and breaks its relationship with happiness and sadness and the space is not live for us, because it has not become a system of meaningful places. Place means where we belong to and it gets meaningful only by humans’ ‘me’ presence and humans will only have meant by having a place and there is a linking ring called the identity. So, human gives identity to the place and so does the place for the human and our environments only become meaningful social environments when offering us rich features in personal identification and this is the frame identity (vernacular architecture) that gives the place its own means and connects people with places and place and human get two integral components (Aboueie, 1998).

THE RELATIONSHIP BETWEEN IDENTITY AND WORKS OF HUMAN (ARCHITECTURE AND URBANISM)
As mentioned, the societies’ worldview and culture have affected their works and identity of the works reflects the identity of individuals of the community; identity of the works also impacts on community’s thought and culture and behavior and this relationship is mutual. So if the created works are from local and national thought and culture of the community and are indicated in a frame, it strengthens the vernacular identity of the community; but if these works are blind imitation of other models with different worldviews, they can gradually affect the thought and culture and identity of the community over time and will change it. Unfortunately, this effect can be clearly seen in the architecture and urbanism of today’s Iran and urban spaces and contexts have no Iranian identity that reflects the native thoughts and its impact on the morale of people can be seen in fashion, consumerism, materialism and attitudes towards issues from material angles and so on. This is despite the fact that the existence of harmony of identity in architecture and urbanism in relation to human identity in past architecture and urbanism and as we know, in the past Iranian architecture and urbanism, there has not been existed a consistent unit like as today’s municipalities that make people responsible for the design and implementation of elements with specific rules or those who ordered to build the city or architecture with an identity. So how is it that every city possesses a unique identity? What is the secret of identity in our past cities? One reason for this could be in the viewpoint of our ancients to the world and religious and human values and their adherence for framing (Hojat, 2005).

Iranian architecture in the past inserted all of these principles and values in its architecture and city by adherence to its principles and values and this notation has led our past architecture and urbanism towards stable unity and various municipal buildings indicate the unity and stable identity despite having different functions in terms of materials, color and total size. For example, if we look at the Islamic city from the top, we see it as a single element, but if seeing the city from the bottom on the ground, we do not see just one thing, but also the diverse elements will be seen and because our perspective is limited and we look at the view from the bottom, we can see excess and this is the unity in diversity and this point should be borne in mind that paying attention to each of the diversities can lead us to the overall unity; what is not seen in our today’s architecture. For example, one of these principles and values can be found in the spirit of collectivism and attention to the collection. Since the traditional architecture build based on tradition and collective identity, traditional architectural
monuments are in the same the form and language, as if a thousand-years architect has built all buildings (Figure 1) and since the architects of the modern era, each build according to their own tastes and personal or style identity, new architecture works are not in the same forms and language indicating diversity of their thought and taste (Figure 2). (Hojat, 2005). (Figures 3 and 4) Islam is the religion of collectivism and the council is emphasized in it and most of its customs and rituals have collective aspects. Thus, an artist who sees the world with this approach, his works belong to the collection and means among collections. God has raised the diversity of the ethnic aiming to more recognition on each other in a verse and then conducts this diversity to the unity that the Islamic art should also have the same unity and diversity.

![Figure 1](image1.png)

**Figure 1.** A view of the city of Yazd, Iran (collective identity) (Hojat, 2005).

![Figure 2](image2.png)

**Figure 2.** A view of Tehran, Iran (individual identity) (Hojat, 2005).

![Figure 3](image3.png)

**Figure 3.** Traditional society: collective identity (Hojat, 2005).
Figure 4. Modern society: individual identity (Hojat, 2005)

NAQSH-E JAHAN SQUARE IN ESFAHAN, THE IDENTITY - CULTURAL ELEMENT IN ESFAHAN CITY

REVIEW ON NAQSH-E JAHAN SQUARE FROM THE BEGINNING UP TO NOW

Table 1. Developments of Naqsh-e Jahan square (Author).

<table>
<thead>
<tr>
<th>Period of times</th>
<th>Works</th>
<th>Images</th>
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<tbody>
<tr>
<td>Safavid era</td>
<td>Naqsh-e Jahan square was built as a pre-designed space with an area about 505 meters length and 160 meters width, and four markets was formed on its four sides. This square has a rectangular regular geometric plan that extends to the north-south direction. Four buildings were constructed on the four corners of Naqsh-e Jahan square including the Ali Qapu Palace in the west as the rule's center for the Shah, Qeysarie gate in the north, Sheikh Lotfollah Mosque in the east as an state-religious (Shia) center and Masjed-e Jameh Abbasi in the south of the square that reflected social and popular power. The outdoor plaza is as a public space for many ceremonies and costumes.</td>
<td>Figure 5. Old and new squares of Esfahan in the main structure of the city in Safavid period (Shahabi-nejhad and Aminzadeh, 2002).</td>
</tr>
<tr>
<td>Qajar era</td>
<td>Changes have been occurred in all aspects including health of buildings, urban activities, as well as the economic aspect was felt. Many business units around the square were closed down in the Qajar era. Zill al-Sultan had made barracks by most of cells of the square in the time to his authority. Other factor in the Qajar period that has made serious problems for Naqsh-e Jahan square was exhaustion and lack of repairing and adequate protection of historic buildings around the square.</td>
<td>Figure 6. Naqsh-e Jahan square in an army parade for Zill al-Sultan (Soltanzadeh, 1991).</td>
</tr>
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</table>
The first measure was to record Naqsh-e Jahan square with the number 102 on the list of national heritage in the year 1931. Other changes were to redesign the outdoor of the square and creation of green space and a pond in the middle of the square. Creating an artificial pond seeping out the water electrically (Aboueie, 1998).

Repair of monuments in Naqsh-e Jahan square began in 1930 to restore a large breakage in the basement of Sheikh Lotfollah Mosque and then tiles of Masjed-e Jameh Abbasi repair of square’s body, repair of big break in Masjed-e Jameh’s porch in 1931, restoration of the dome of the Sheikh Lotfollah mosque in 1934 and 1935, restoration of Qeysarie gate and Masjed-e Jameh’s entrance gate in 1936, repair of massive dome of Masjed-e Jameh in 1937 and installation of an iron belt around the dome in 1941 that was constantly flowing.

It was taken into consideration the revival of urban activities and business in the square in this era to restore the square to the flow of urban life and restoring the vitality and prosperity that the square had in Safavid era and repair and restoring cells and establishment of various applications in the square. The cells were transferred to other persons with special provisions to make shops and magnificent buildings on four sides of the square. It was settled artists and craftsmen from different fields of fine art works including silversmiths and Miniaturists and practitioners of fine arts in stalls and shops around Naqsh-e Jahan square (Rajaie, 2007).

Construction of Ostandari street in the west of the square led to possible roadway arrival and departure to the square in connection with this new street which was possible only through the Hafez and Sepah streets before it.
IDENTITY FACTORS OF NAQSH-E JAHAN SQUARE

Naqsh-e Jahan's square is as Iranian relatively intact rare urban spaces which acted in the scale of the city and even beyond that, in the scale of Iran since its creation and today it is recognized on a global scale (Tavasoli and Bonyadi, 1992; Petersen, 1999). The date of building this square was about in 1632. It has about 510 meters length and 165 meters width. Idea of design and construction of Naqsh-e Jahan square was proposed and implemented in the period of Shah Abbas I, in the southwest of the Esfahan city as the city center (a city that was chosen as the new capital of Iran). This center, in fact, gives physical expression to organize the idea of unity and the relationship between main activities of the community by the name of religion. These activities with the main symbols of worship, teaching, politics, trade, manufacturing, sports and recreation, all were formed in the side or middle of the square where has been called Naqsh-e Jahan square and it was later known and become famous as the identity of Esfahan and Iran's Islamic civilization identity. Of course, formation of its body played a role worthy of attention with its certain symbolic elements and meanings in the reputation. What is called Qeysarie or market that was located on the north side with magnificent entrance has established many original elements of urban activities in that era such as inns, the Royal Mint, hospitals, mosques, timpani homes, hotels along with orders in the market (and various classes). At the same time, the focus on trade and economic and material activities had not gone people unnoticed to the human and religious values, and in addition to spiritual elements, it was met to care about modulation of the material activities and take the spiritual aspect to them. For example, revenues of four markets around Naqsh-e Jahan square were dedicated in the year 1638 by the Great Shah Abbas to the fourteen infallible Imams (Honarfar, 1984). On the other hand, the number of royal palaces such as Forty Columns and Eight Heavens and Ali Qapu palace made an extensive collection in the west of the square. Proximity of the field with the newly built Chaharbagh Street made it possible to link the square to the Zayanderud River and its beautiful beach which is finally linked to the beautiful Khaju and Si-o-seh Pol bridges and gardens of the south of the city. This square is one of the Iranian designed squares which has completely regular geometric shape and the establishment of each of the elements and operations of the middle have been predetermined and with prior planning. In addition to the fact that this feature introduces the square as an identity factor of Iran's civilization and represents it as a manifestation of Iranian art and science, it cancels the theory that the science and the field such as urban design is the newly-stranded alien and non-Iranian field with the argument that it has been taught in Harvard University as an academic discipline for the first time (with the conclusion that its principles should be taught from foreigners). This square that has very important position in almost all books and studies and reports that are dealt with Iran and the Islamic world, and even global works (with all their elements and the area around them and spatial organization) has been as a clear manifestation of Iranian knowledge to all sciences that are involved with shaping human living space (including architecture, urban designing, planning, environmental designing, engineering, side arts and different science and technologies). Some physical identifying factors of the square would be mentioned in this paper without entering on the principles and values and roots of formation of Naqsh-e Jahan square which needs independent and adequate discussion. Even in the physical factors, it won't be considered to enter to the architectural topics, or engage with characteristics of related arts (such as calligraphy and mosaic tile and woodcarving and tiling, etc.).

THE BEAUTY

Given the undeniable beauty of the square that has been concerned by all researchers and visitors in different ways and with different descriptions, it can be canceled some physical patterns that are proposed for the beauty of urban spaces. Physical proportions, and especially the proportions of height to width is one of these models in the urban areas. One of these ideas that has been proposed by Rob Carrier in the study of western squares is the proportional introduction in a specified range, so that middle of the range creates the enclosed (and beautiful and desirable) space. One side of the spectrum (the ratio of width to height is a large number as greater than 4:1) does not create an enclosed space primarily, and people feel lack of closeness and a sense of being in the desert in this space. It has been introduced the 3:1 ratio (about 18 degrees) as minimum sense of closure and a ratio of 2:1 (30 degrees) as the threshold of a sense of closure. The ratio of 1 to 1 is in the middle of the
spectrum which is complete sense of closure in the study above and less ratio would press to mind the stifling atmosphere. It is noteworthy that this ratio (width to height ratio of the square’s body) is about 10 to 1 in Naqsh-e Jahan square that provides non-enclosed space in terms of such studies and recommendations that cannot be called the square according to these studies. Even if we assume that this comment (feeling lack of closeness in the square) is correct, it has to see (that is the significant and important point) what arrangements the designer has used to transform this theory or the psychological principle that made the audiences to admire him and to induce its beauty and presence in enclosed urban space. Perhaps, one of the measures that have been used and has an impact on human perception was making four turning points in the middle of the four sides of square, especially two of which (mosques of Imam and Sheikh Lotfollah) were quite spiritual and the other (the headquarters of the King: Ali Qapu) was quasi-spiritual and the fourth (that was concerned by all people at least for half of living and its appearance) through which the designer could be able to overcome the proportion (Ahari, 2001). In addition, it was reduced the categorizing of the square’s body to split members as well as to deploy daily needed applications for people in shops and by creating human scale (for walking) or considering the height or top of the wall (Figure 11). In addition, the allocation of the middle of the square (at the time of creation) to the appealing activities (and not like as foreign works to sculptures and statues) has attracted the views towards the center preventing the observer from looking at the sky or the horizon (Figure 12).

**Figure 11.** The eastern body of the square: row of shops, and attractive pedestrian environment for observers’ eyes (Author)

**Figure 12.** Naqsh-e Jahan square and some activities in the middle of the square in Safavid era (Author)

**THE PUBLIC SCENE OF THE SQUARE**

Although middle of the square has been welcomed the transformations from different directions since the construction so far, but what should be considered most is its character during the construction, and indeed knowledge to the Comments of designer and builder of the square. Probably the most accurate descriptions have been provided by tourists of that era on the Naqsh-e Jahan square. As an example, Adam Olearius (Head of the German delegation who traveled Iran at the time of Shah Safi, 1603-1671) wrote about the square of Esfahan, Iran, that: "the square of the city is broad having about seven hundred feet length and 200 feet width. Beautiful and uniform arch facades are built in the west that are dedicated to the goldsmith and jewelery with trees planted in front of them. There are broader arch facades in the east for playing Serena and drums. Saheb Al-Zaman mosque is in the south and the
market is located in the north and sporting events are done in the center of square. High wall surrounds the king's palace and 3 to 4 persons protect it during days and 15 person at night"(Arianpour, 1974). Pietro Della Valle also said: "a full-water creek is running around the square that stones are placed in the middle of it for pedestrian traffic and it has been planted trees with foliage on the same straight line between the creek and shops that I think they will become the most beautiful view of the universe in the next few weeks when the leaves will form. The center of entire the square is carpeted by fine stone slabs and it does not exist better position for running or horseback riding" (quoted by Honarfar, 1984). It is observed that Della Valle has used terms of the most beautiful and best position for the square which these two features are related to the application of two live natural element groups of plants and water and gravel. There has been the media pools with the area of seventy feet and depth of ten feet with stone walls in front of market entrance and Imam Mosque that have always flowed clear water in them (Chardin, quoted by Honarfar, 1984). However, the stone pool in front of the Imam mosque is empty of water as a stone pit located on the observers’ view (Figure 13). Chardin explained that the creek around the square is made with brick or black lime that is tougher. The 6-foot-wide creek with black stone plinth has pavement for four people who can easily move around besides each other. There is a 20 feet distance between the river and the surrounding rooms around the square (quoted by Honarfar, 1984). Therefore, one of the distinctive features of Naqsh-e Jahan square is the presence of nature in it (particularly water and plants) (Figure 14). This presence is represented also with simplicity and with a certain geometry that have been in the Iranian gardens. In addition, light and sky had the dominant presence on the square. The color of brick and soil increased also the presence of nature and human’s sense to be much more connected with nature. One consequence of the presence in Naqsh-e Jahan square which is not observed as a certain complex except for two domes and palatial building that can be seen because of its prominence to the square due to relatively high length and width and low height of its wall (and of course, the entrance in distant cannot be seen easily) is the majority or feeling two issues for the human: the heavens and the earth and if it was in the Safavid era (and the space was preserved); perhaps an island surrounded by water was imagined to the mind and full shadow row of trees that were associated Heaven. What is that cannot be seen todays in the middle of the square and landscaping available indicates that is the repeat of patterns of the park. The center or middle of the square was dedicated also for holding various rituals, sport competitions and recreational displays and commercial caravan lodge. One of the main functions of the coffee houses around the square that are not existed today was discussing of poetry and stories and games and entertainment to praise Ali (AS) (Tavasoli and Bonyadi, 1992). In addition, there were illumination and decoration tools for holding celebrations and ceremonies gladly in the square. In addition, joy and gladness celebrations were as the main activities in the square as well as playing polo (Honarfar, 1984).

Figure 13. General view of the square in front of Imam Mosque towards the north (Author).
Figure 14. General view of Naqsh-e Jahan square in the Safavid era (empty middle and rows of trees and running water around) (Author).

THE SQUARE’S BODY

The square’s body possesses cultural features and reveals valuable and spiritual matters that should not be neglected. The main body of the square on all four sides (but four main points that will be mentioned) in comparison with the size of the square is relatively short that in its early days, in the presence of an observer along one wall looking at the front side (especially in length) due to the observation of the earth rock (along with current water movement on the right, the sense of presence in nature had been induced in observer due to seeing (stone) ground by flow of water around the square and by the presence of the rows of trees stretched to the sky in front of the walls, by observing the sky in much of the field of vision, and even by observing type, composition and color of materials (Figures 14, 15, and 16). In addition, pop-up frame of shops and porches on top of them that were repeated dozens of times have been appearance and reminders about mention. Mention (or repetition of sacred phrases or words), although perhaps seems boring by materialism thinking, but mention are valuable and beautiful with all its inner spiritual meanings in theologians thinking. The square’s body has had beautiful unity and cohesion even in entries and inputs with its covering which was a rare example (in areas except for Iranian spaces). But about the milestones and observer’s attention to the four sides of the square, it can be said that these four points are actually a manifestation of all the sacred and symbolic meanings in Islamic thought that can be explained for number four. Each of these four points is also dependent on each other and complement to each other in addition to their relative autonomy.

Figure 15. General view of the square, Sheikh Lotfollah Mosque (right), Ali Qapu (left), Qeysarie gate (face) and Imam Mosque (behind) (Author).
SHEIKH LOTFOLLAH MOSQUE
The mosque is located on the eastern side of the square in front of the Ali Qapu palace. It is from valuable works of architecture and Iranian art in terms of proportion, dome, light adjustment, motifs of tiles and spatial organization and other properties. According to the inscription of the entrance, the year of 1633 it began and its altar was ended in the year 1649. Characteristics can be outlined for the mosque which plays generally as distinguishes it from other Iranian mosques and schools including inside and outside mosaic tile and higher inscriptions in the line of Ali Reza Abbasi. Background color of tiles is often blue in other mosques, but it is buff in this mosque. The dome is as the most beautiful Iranian domes that there are fewer domes to compete with it in terms of color, geometrical forms and proportions by the simplicity and low height. A dome without any supplements (such as high entrance or finial to the heaven) which is alone on a wide open part of the city of Esfahan and the shadow covers it (Figures 11 and 17). The mosque is one of the exquisite and beautiful manifestations of Iranian culture and civilization by views of tourists and researchers and historians. For example, Pope wrote in the book of Iranian art evaluation that: a mosque that has been constructed on the east of Shah Square and opposite to the Ali Qapu Palace is one of the unique masterpieces of Iranian architecture. Sheikh Lotfollah Mosque on the other hand is not seen clearly except from the face (width) due to a point that has any direction (a circular dome) apparently and evens its entrance has indent from the square. This lack of induction of direction can be interpreted from verse 115 of al-Baqarah Surah. In fact, with the cube that reaches the earth symbolizing the material world and the earth, and the dome over that that shadows the ground as the heaven, the mosque shows directionless induction of in the world of the soil and the sky in its exterior facets (Figure 18). While, inside the mosque makes the feeling to be in the center of the universe and being under the sky, it indicated the direction of the Qibla to the praise and worship with its beautiful altar in front of the entrance. Thus, although the space outside and around the mosque is apparently homogeneous, but inside and for worship, the space is polarized strongly and clearly as possible to the Kaaba. Sheikh Lotfollah Mosque has no apparent affinity with the vast majority of famous mosques is that are famous due to masterpiece architecture and it is appeared as an exception. This is why it cannot and should not be assessed and analyzed with general criteria and recognized rules (Tavasoli, 1992). Beautiful dome on a beautiful cube symbolizes the sky surrounding the earth and the souls that stem from the dome skylights into the radius of the sun evokes the sky with the stars decoration, and of course, the inscriptions of verses reminded and pointed the creator of the world. The movement of the cube (earth) to the center of the dome that appears to be central star, in fact, remind the beauty and serenity of tendency of matter to celibacy and the movement from the earth to the heavens and from the ground to sky that is a typical sample of Iranian art features as the abstractionism (Figure 18) (Naghizadeh, 2006b). Another feature of the mosque was forgetting the time (Tavasoli, 1995; Ardalan and Bakhtiar 1973). Such as forgetting or hiding place and direction. Here, it is not raised the North and South and East and West. Who were located under the dome of the mosque does not know or is not known where he is in the world. He sees only one direction by observing the mosque’s altar, a direction to the center of the universe, the Qibla direction. On the other hand, he is appeared as the man, caliph of God as the center of the universe (under the dome) which is associated only with the Kaaba and the sky. Note that being of the human at the center of the universe here has distinct and
substantial differences with being in the center in the modernism thought. Here, the man is under the rule of God in a temple compared with heaven and earth and as a caliph is on the house that its God has placed it as the center of the universe and the focus and worship. But in modern times, the man with the removal of God is considered as his successor and as the degree and measure of all things. In the spatial hierarchy of the mosque as well as spatial organization of the Imam Mosque (as will be mentioned) the height of the space that is called treatment space (Naghizadeh, 1999) has treated worshipers mind from worldly affairs and prepare him for prayer and worship, and at the same time, it shows itself clearly and competence with diverse manifestations. Space that such as Limbo links the world to the Hereafter, earth to the sky, material to the sense, invisible to attend and man to God. With the difference that this is done by so dark and narrow corridors in this mosque, and on the other else (Imam), it is through beautiful vestibule with corridors on either side.

**Figure 17.** Sheikh Lotfollah Mosque as a gem on Naqsh-e Jahan square (Author).

**Figure 18.** General landscape of Naqsh-e Jahan Imam Mosque

**IMAM MOSQUE**

Imam Mosque is also as valuable and magnificent works of Iranian and Islamic architecture, that its entrance was allocated to the center of the southern side of Naqsh-e Jahan square. In addition that there are many speeches on the architectural features and proportions and its technical high position, one of its distinguishing feature (which all researchers refer to it) is the lack of feeling the rotation of the square’s axis to the direction of Qibla through the vestibule entrance and accessory hallways that goes toward it's beautiful courtyard when entering the mosque (Ahari, 2001). Perhaps this is true in an architectural study of the building, which it is, but let's see why that is, and what other ideas could also be raised. With regard to the fact that design of square and its surrounding complex was constructed outside the old city and by the absolute power of the (king) that had the power to choose any direction to for the square, why designers and builders of the square have not noticed to choose the direction of square with the Qibla not to appear this problem? And as somebodies claim exclusive effect of climatic issues, only climatic problems is the criterion of a naïve issue. With regard to the absolute power of Safavid king, relevance of scholars and philosophers and involvement of qualified and knowledgeable architects and artists, it seems that the set of considerations has led to select a direction with the angel from the Qibla. This selectivity results the perception that everyone is in the square would ask unconsciously by observing the mosque that why is that, and why the mosque axis is rotated than toward the square? and the answer: Islam was introduced and suggests the fundamental
direction (Qiblah) in mind. On the other hand, consideration of the four minarets, which are placed two by two on a page that the resulting pages are rotated relative to each other, made it possible for the whole city to recognize the Qibla direction with regard to physical domination of the mosque to the entire city (at the time) (Figures 19 and 20) (Ahari, 2001).

**Figure 19.** Ali Qapu, the protrusions on the square, cut of the second floor in the square’s body on both sides, and the lack of walls on three sides of the second floor’s wall and so on (Ahari, 2001).

**Figure 20.** Qeysarie gate in the north of square, entering to the market in front of Imam Mosque’s gate and on the other side of the square (Ahari, 2001).

**ALI QAPU PALACE**
The Palace is located in a third of southwesterly side of the square and in front of Sheikh Lotfollah Mosque. Aside from what's mentioned on its technical and physical characteristics, it has features that some of them are mentioned. The building was mainly for receiving foreign ambassadors and as a place for monitoring what was happened in the square made up of halls overlooking the square and to enhance its performance, the other three main elements of the square (Imam and Sheikh Lotfollah mosques and the Qeysarie gate) were unlike of further from the body. In the meantime, this will be maybe due on the king's demand (or planners) to represent the king's power and status and even holiness (Tavasoli, 1992). On the other hand, the establishment of Ali Qapu in west of the square can be a reason for designer’s shrewed emphasis field to represent decline in financial and material power, and this is in contrast with Sheikh Lotfollah Mosque in the east and align with the sunrise, and the Imam Mosque in direction of Qibla and the market in the north (Images 19, 13, 11 and 20) At the same time, Ali Qapu building, despite its holder that has no wall in the upper sides and just having column and roof for protecting the King and those around him from the harm of radiation and cold and heat, wind and rain has had no gravity and heaviness that impose itself on the square and the other buildings (Honarfar, 1984).

**MARKET**
There were relatively large troughs in the middle of the northern side of the square that its entrance is in front of the Imam Mosque entrance (in southern side) and the gate has pulled people into the city market that is the set of all production and trade activities and even schools and mosques and access roads to the city's residential neighborhoods. Although mentioning the separation of mosque and market and the necessity of focusing on the world and neglecting the hereafter, but still it is insisted on the fact that the world and the Hereafter are inseparable in a certain sense that are define by Islam (Tavasoli, 1992). Perhaps that is why the square is surrounded by market with all its spiritual properties, mosques’ and schools’ entrance are glaring alternatively in the market, and even central element connecting the spiritual elements of the square is the market that surrounds around the square (Map No. 11). Thus, in a word, it must be said of the unity of life and the importance of paying balanced attention to all its territories. But, the Qeysarie entrance is beautiful, stylish, elegant, inviting and having architectural value in its own that is appeared as a hole as if opening the mouth as a world to devour humans to merge those who focuses on it and unaware of spirituality and meaning and the Hereafter. But, there are those that can exit that hole in compliance with balance and consciousness after a while, business activity in it, as if to leave the world behind and got to the mosque. While expressing the unity of life and a notion of the need for dealing with the world to prepare for participation in the hereafter, the square will symbolically show that: to address the spirituality, it should to back up the world and vice versa, focus on the world life led to backing to the meaning and hereafter (Pirnia, 1990).

CONCLUSION
This article seeks identity as inherent, dynamic and progressive features of architecture. Distinction separates different architectures regardless of the characteristics of its users. Identifying is considered as independent today which is added to it from the outside and by humans as autonomous and free contributor architecture. In viewpoints of scholars, human activities including architecture positions find meaning over time and in the place. Activities carried out in places create memories in the human mind over time which may be individually or collectively. With multiple references to them, collective memories that are as identifying elements in the human would stamp in his mind and makes the location different from other places. Considering the above, Naqsh-e Jahan square can be introduced as a sensible identity factor of Iranian civilization with its particular physical characteristics, with the four-sided elements, with its spatial organization, the spiritual meanings that induces the mind of the observer, with its history, with being famous, with arts and artifacts and techniques that are used in its creation, with the role that plays as an unique urban space, and with all of its internal and external attributes and characteristics. This identity factor is pointing to the ideology and thoughts and religion and culture of Iran and Iranians and is a representation of the Iranian scientific and artistic power noting a comprehensive approach in Iranians lives and way of life and that it can also be introduced as a genuine and not parodistic unique work compared with in urban areas in other civilizations. These are all lessons and guidance to the fact that the only original works that shaped by the original Iranian thought could be identity factor for the Iranian civilization and parodistic works as being great, majestic and ornate are imitative works and a foreign identity factor showing affectability and feelings of inferiority in the imitator society that destroys the spirit of creativity in the emulator community over time. Works of identity crisis that can be seen in various aspects in our society is the evidence of the issue. Hence, in today’s architecture and urbanism, to achieve a stable identity should pay attention to past works and introduce all their features (clear and hidden) in order to strengthen the spirit of confidence in the community as the epigraph promise and to create the works that the time passing does not make it obsolescent and our posterity offer them as their identity factors in dealing with other civilizations by returning to themselves and pay attention to local and national characteristics attempting on framing that in the architecture and urbanism.

Imitation has squandered my head.
Two hundred damn with this imitation (Molavi)

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INTRODUCTION TO UNDERSTANDING ARABESQUE MOTIFS AND ORNAMENTS USED IN THE MOSQUE IN YAZD

Hamed Hayaty  
Preceptor of Department of Architecture, Ahvaz Branch, Islamic Azad University, Ahvaz, Iran  
hamedhayaty@yahoo.com

Parisa Adibi  
Student of Department of Architecture, Ahvaz Branch, Islamic Azad University, Ahvaz, Iran  
(Graduate Student Islamic Azad Ahvaz)

Parisa Pol  
Student of Department of Architecture, Ahvaz Branch, Islamic Azad University, Ahvaz, Iran  
(Graduate Student Islamic Azad Ahvaz)

ABSTRACT
The most prominent building in the city of Yazd Mosque can be called. The mosque has a lot of changes throughout history has seen fit your time. In reviewing the mosque, as the Islamic Dygrbnahay faced with various decorations including scrolls, tile and geometric designs. The overall goal of this paper is to study and understand the history of decorative motifs used in different parts of the mosque. According to their importance and analyze the signs and symbols of the painter.

Keywords: Decorating, symbolic motifs mosque in Yazd, Islamic architecture

INTRODUCTION
Decorating has always been one of the pillars of Iranian architecture and its valuation is of particular importance. Brickwork, stucco, tiles, carvings, wood carvings, mirror work and among the decorations that have been more or less prevalent in all courses (Behdad, Jafari 1391). Mosque is the perfect symbol of Persian Islamic architecture and According to Robert Halen brand in Islamic architecture, the mosque, the architectural heart knows the effects of the mysteries of architecture. The use of geometric designs symbolic and philosophical in the sense that enhance a sense of unity to the psychological effect on worshipers in the mosque with complex geometric shapes and repeat proportions associated with these roles creates a sense of order and harmony Yazd Mosque as one of the most prominent buildings in the eighth century with beautiful designs using geometric and arabesque motifs together modulator This is a masterpiece of architecture of the period in Yazd region which features local architecture (schools of Yazd) and common architectural style of that era's style is both Azeri (Hosseini, Abargouei 1393).

Questions to be discussed in this article:
What are the motifs referred to or quoted in Yazd Mosque?
What's important motifs and concepts studied in the mosque?
Iranian art motifs decorations can be divided into three parts:

Scrolls geometric decorations and ornamental plants in this research that is descriptive-analytic method is tried first, a brief history of the Jameh Mosque in Yazd listed and then with library research and observation, arabesque and decorative features of the mosque is examined and analyze and compare the characteristics of each segment designs also according to any debate are examples of related images.
BACKGROUND RESEARCH

Mosque of Yazd in the center of the old town and the fence, is located all of it, including the infrastructure that is except of 9800 square meters, the areas decorated with tiles, including scrolls, etc., about 500 square meters. Mosque length 104 m and width of 99 meters Yazd Mosque has seven entries with the entry that numerous roads and alleys associated. Great Mosque of Yazd Over the centuries the building has been built on the remains of variety that in historical texts under the headings city Friday Mosque, the Old Mosque, the old Friday Mosque, New Mosque Vbnahay its accession to the various names mentioned (Khademzadeh, 84: 1384).

It seems that in pre-Islamic temples in these places have been set up. The first mosque built with the chamber at the time of Mrvlys Safari (Gulshan 536: 1378). In the fifth century zahirodinKakouei to renovate the mosque of Imam Abu Mansur Framzavlyn (city) that was established in previous centuries. He AldynamyrAlaArsalan Ali Ibn F. and his wife Khatoon mosque minaret beside staged early as the ninth century, has been in place. His son, La’alvhlGushtasp (513-488 BC) Ivan domed mosque with one another and in the West it built near the ancient mosqueZarch coastal canals that are now current in the courtyard of the mosque and the congregation built a house in western Zl (the 538). Construction halted by the Mongol invasion of Iran and the relative calm in the eighth century that swept Iran began construction speed new Mosque in the base of 724 or 728 AH in the direction of the old mosque of SayyidRukn al-Din Muhammad ibn consistency by Din Mohammad bin system was laid judge HosseiniYazdi. In the Timurid era in the ninth century mosque were many changes and extensions. In the year 809 AH Khwaja Jalal al-Din al-Khwarizmi, coastal dome of the mosque and the house was completely tiled. In 819 AH King Kermani system to the new building was finished Vkashykary mosque inscription Bahaa Adin thousand horse (Al Fatah) Brshn the mosque the only part of the inscription remains on both sides of the porch. (Khademzadeh 85: 1384). In the reign of Mr. Jamal al-Din Muhammad, known as the Elder J. BrtaqShahtahmasebi main Srdrgah added two minarets above the cupola of the dome Vqbh completed Mqsvrh (Afshar 120: 1374). Afsharieh during the construction of the mosque is no news of actions. But the Zand era inscription dated 1172 AH in Kryas east side of the mosque is that it Vfqnamh of the old mosque is closed(Khademzadeh 86: 1384).
In the Qajar era mosque demolition and renovation range in the series occurred. It measures the reign of Shah Mohammad Vali Mirza in Yazd occurred in the reign of Fath Ali Shah Qajar and

CONSTRUCTION BEGAN

In connection with the Iranian Islamic architecture and decorate it been written books and numerous articles. Including books by IrajAfshar Yazd mementos that in the second volume, the first part of the great mosques of Yazd is famousas well as articles including: Chemical analysis of the symbolic aspects of the ornaments mosque in Yazd, written by Dr. Seyed Hashem HosseiniVhsyn strong cloud janitorial published in the journal of scientific theory, a comparative study of two mosque Tile designs Chaharbagh School and the writings of S. doctor Cyrus Momeni, research in plaster finish bottom of the brick mosque in Yazd approach by Hamid Behdad and Behnam JalaliJafari and other similar articles that are written on the mosque in Yazd and has been used in this study. Now look at the scrolls and other decorations in the mosque there:

SCROLLS
All Iranian art are closely linked together, and they all expressed a common cultural spirit. Islamic calligraphy art large-scale geometric shape accuracy Byangrsh, led the other arts, the discipline in the team. It is an integral part of the lives of Iranian poetry and philosophy with spiritual light makes all cultural expression and belief. There is a similarity between Poetry and visual motifs. Rhyme and rhythm, intensity and gentle words and songs, wonderful and just completed a long list of headlines, features that can be in any art like them to see. Great art of calligraphy in Iran, such as the Far East and of course the first place. Arabic alphabet that is more decorative aspects of all lines, with a lot of enthusiasm and interest found, with enthusiasm and great interest was developed and Iranians promote it and bring out the astonishing variety of shapes, The architects masterfully combines them in each episode, Azbnay mosque used, as the meaning of the word was God.

These scrolls may be a bunch of long letters, enough to fill an entire wall, inscriptions copies to tiny devices hidden in a spray Mogharnas. By combining them with each other decorative geometric designs hidden role in the victory in the medal or decoration are great.

This post strong authentication has made Aymayat whisper. When reading one of these lines of various other types of reader fails, But worship is not something that accelerates gradually makes its appearance, so that reflections due to conv seems that all the divine message tells the scrolls.

In addition to verbal communication master calligrapher, had an emotional person with a particularly linking, is born out of the abstract line.
1- inscriptions eastern entrance (main) on the forehead is the new tiled include:

1.1. Name of God Anna FthnaFthMobinaLak ......Bell Canada's KhbyraTmlvn us.

Truthful Allah al-Azim (to within forty-five inches) in the main port of the third line of tile and white on a blue background.

2.1. The name of Allah the Exalted fireproof per Beaute permission Trf and Yzkr therein the name Ysbh therein crush us LghdValasal (Eleanor / 36) in the forehead and Kufic inscription dated 1370 AH the old Kufic script was created.

3.1 Chapter Friday the third line and forty-five centimeters wide that our environment is Mogharnas vault.

Sura margin between the two. Anna FthnaVsyrh Friday from top to bottom seven pieces arcades Vogel is up and the middle piece Engraving "La ilaha Allah Muhammad Ali but Allah indeed scandalous truth" is.

Scrolls to the eastern parts of the half-arch Rqth you are:

4.1 Shamse of the mosaic inscription on six sides (both sides Tuesday Shamse) and line Vmvrkh of 891 copies each fifty centimeters in diameter Stvdr called them following lines:

The point of view of beauty and glory / Sports embodies the traits of perfection

Always crowded slum of God / heaven Court of Justice Kebria

Hajat prayer for people who are sure / backrest master state religion

Kaaba before Truthfully / ends of arch mosque us

However Arches and porch and the porch of What / Who is to know Kandryn home

To relish the mud ornament / founder of Dell's grace upon grace

5.1-inscription third line width of 819 Vmvrkh fifty centimeters Testament Shah Rukh Khan Bahadur Shah mosaic tiles and the efforts Kermani system installed and the text reads:

"Height Albna'almzm per day prophet, however Monkey King) Adam Zell's whole world of competitive products per midland Bavzh specific argument Haq Bahadur Khan Shah RukhValsltNhDunya parents Khldallh. Glorified fi durable Alzvalaqbal Queen VkhlafthVsltnh truth Muhammad Ali ibnAbiTalib, peace be upon him Messiah Vale AltybynAltahrynVshrVsmanayhTsh per year."

6.1. Other inscriptions in the previous inscription placed above the Weber Building and Kufic turquoise colors VsfydastAnd when he had shed its old scrolls and the election of Mr. Seyed Mohammad TaghiMostafavi following bits are repeated three times in the inscription:

Hi Kalaf prophet Mohammad / Hi Kalaf Allah (sic)

7.1-text scrolls third line of Mohammad Hakim (the other inscriptions of the mosque Mir flint are in the Eastern time) on the same side of Vmtsl to the following:

8-1-in the port Mogharnas ten AsmazAsma’bray excellence in Shamse of the tile it ‘s a new and rapidly ShamseHvallh least another chapter to the complex chain of copies to be seen, as well as (Allhmhmd Ali) in Kufic.

9-1-inscription on the medallion and over twelve Imam Ali MahmoudiDerbenaskhi action Mehrizi architect and historian of the lunar year 1365 is in VmnarHarahdhDarbvdh.

10-1-look at both sides of the niche or arcades to the altar there is mosaic tile that Srasrazand inside each square with lines Kofi seen three goals Babarat Alhamdulillah (four) al-Allah (four), Allah Molk (four) and two parties to the potential role of Allah (on the right) Valz-h Allah (on the left).

11-1-on the sides of both sides of the niche named Mohammad Ali in Kufic among the flowers and bushes Decorative mosaic tile is repeated.

12-1-over the two Shamse very nice niche with mosaic tiles is that they are in Kufic "Yasltan or Glory" is repeated.


2. atrium (Kryas) - the main altar

1-2-in the under-roof blue-line inscription dated 777 copies Brgch is good, but unfortunately it has come to abrasion and damage Yazd Amir Shams al-Din Muhammad, according to the new record after the inscription records the building atrium.

Neyshabur is an ode Ktbh text of Hassan speaker informed that the first line of the "HP Kaltaf HP Almmjd And writing on it" ....Thryrafy Lupine year and Sabin and SbmayhHjryhAlnbvyh. "(Afshar 129: 1374).
The main altar or sanctuary in a dome home, decorated with mosaic tile and brick inscriptions and percussionist and two star-shaped tiles appointed in the name of the craftsman and construction on the altar is closed.

In the sanctuary of the mosque, part of a small tile in the shape of the planet and of all colors used in the tiles of the mosque was used. (Dehghanbanadaki, 1387 Mehr news agency).

**Figure 4:** Inscriptions and decoration of the altar in the form of tiles Mrq.makhz: Gallery of Architecture and Interior Design

**Figure 5:** Atrium (Kryas) makhz: Gallery of Architecture and Interior Design

3-Manar

The Manar the mosque at the behest Qajmal Jamal al-Din Muhammad is known to most at the Ministry of Yazd he was held responsible Tahmasp and was rebuilt in 1313. Cal of the Earth's surface is approximately fifty meters tall minarets of the local environment to which they are Drkafy eight meters. Names of Allah and the Quran body and sticky tiles has been in that role, as follows:

1-3- "In the name of God Almighty AlzyEsriBbdh ....

"Ho AlsmyBasir."(Between Israel) to the third line below the shelf.
2.3 "bath Ykad" Kufic and blue tiles on white background.

3.3 In the context of Minar Muhammad Ali Kufi repeated.

4-3 in the bottom of the "Name of God" in Kufi 

5.3 The-shelf "Allahu Akbar Allah much" in the third line is repeated.

One of the minarets are two ways that one way to climb and to come back the other way. (Ibid. 144)

Figure 5. The high altar globular Source: Hosseini,93:38.

4. bedchambers

East Nave (toe) in 777 on the orders of Shah Yahya Mozaffari. In the upper part of the sanctuary have made it work Vmqrns Azgch. On the altar eight pieces of mosaic tiles (size 30 x 35 cm) rectangle at the lower edge of the mosaic tiles to size 58 * 108 installed the role of the diaper Vbart "God VhvFsyfFKhmAlsmyAllym" complex and very beautiful for the decorations and combined.

Thirty-eight meters length and width of Western yard is nine meters high and the windows network and King emirates plinth is made of tiles Timurid era. The bedchamber was built during the reign of Amir Ghias, according to Mr. Seyed Ali Mohammad minister until recently called "Ghyasyh" is known.
Figure 7. Star-shaped ornaments under the roof of the atrium leading to the dome, Source: same

Prince yard length to width twenty cubits thirty-seven Western King in the North Courtyard by Prince Mohammed, but Mirza was built in 1240 Lunar daray forty-eight columns (ibid., 146).

Figure 8. Western yard, Source: Gallery of Architecture and Interior Design
Ivan Home

Ivan's length thirty meter and width from the beginning to the altar fourteen meters.

The works are part of the mosque can be seen from the outside to the inside is:

1-5 inscription in the mosaic tiles and the line manuscript vault, twelve Imams.

2-5 in the top of the columns of the entrance two sides square Kufic script and the words "ol Allah" is installed.

3-5-tile mosaic inscription manuscript line on top of the column with the words:

Right hand, "Faye Sultan Bahadur Shah ZemanAlstlanAlazm parents Khld certain ValkhlaflHaq Allah Tlay Queen Vslnh Fi Al-Alam".

Left hand "La'almbanyAmrthaTvfyqa grace of Allah AlhamyChqmaq together with Amir Rasul Fatima bint al-Shami Smyth AlbvltlFtqblha receptive Hassan per city (sic) the year 0836".

4-5-The following columns on both sides of the porch of stone Mrmrst And on each line versions of "Jlvbalslvh before Alamut" is engraved.

5-5-since the beginning of the curved roof patio door from the right side of the inscription good repealed the chapter "Fatah" and in the yard away from the start and all was right-hand side. But the rest of the yard is not something from the "lemma directly latter" to "YjbAlzra" that leads to the opposite side.

This book is, so that in this new date is recorded Yazd is Karbha'aldynHzarsp that the Calligraphy manuscript of his time. In particular, he mentioned that more useful information to briefly quote:

"Maulana his holy age at the time of Eighty aggressors Bvd.thdNmvd.dr effect that night in a dream world to serve the majority of the prophets ....he ordered him to write his last overlooking BOOK sudden weakness within sight Vrshh hand carved pen to pen in his hand he found compassion income Frmvnd.chvn sleep ... "

Figure 9. Prince yard, Source: Gallery of Architecture and Interior Design
6-5-over porch roof to Kufi inscription are the names of God in the form of imitation and plaid.

7-5-The remarkable Vhrmrndanh the general tide of two pieces of mosaic tiling mingle with brick percussionist with the flowers on the altar also used Vbhth that look alike (Afshar, 147: 1374).

Figure 10. Calligraphic manuscripts of verse 20 of Surah Fatah, the effect of BahaHezarAsb Source: Gallery of Architecture and Interior Design

Figure 11. Mirza Vali Muhammad porch, porch Ghiyasuddin, source: Wikipedia Shi

6-Dome

1-6-in the vault of the dome and connected to warping of the chapter Alasry inscription is in line versions.

2-6- soffit Kufi and turquoise tiles Allahu Akbar repeated.

3.6 In Mogharnas "Muhammad", "Ali" is repeated.
4-6-under earrings "Allahu Akbar" Kofi repeated.

6.6 on the eastern and western walls Under the Dome "Allah", "Muhammad" is the tile and Kufi inscriptions.

7-6-northern and southern walls with tile Vkvfy foundation "Allah Akbar Sobhan Allah Valhmdllh Vela Velailahailla Allah, Muhammad is the Messenger of Allah Allah" is the inscription.

8-6-in the top of the altar on both sides of two clover-shaped flowers of mosaic tile installation within the four "Ali" and "The Name of God - Shh dallHHenin La IlahaKhyralrazqyn" role is.

9-6-in the frontal altar "Aqm Alsvh prayers .........spots" in Kufic, Venice "Aqm Alsvh .....Mhmvda authorities "manuscript line, and" La ilaha Muhammad Ali, but Ali Hqahqa "manuscript line coarse, and" Dvazzh Imam "fine manuscript line with the" inscription perfection "is the inscription.

10-6- two columns on the altar inside the two-goal edge inscription of ten centimeters in diameter octagonal mosaic tiles and there naskhiThe result: the right, Haji Din Muhammad ibn Abi Bakr bin Al YrfBvaladal yzyd action.

Left hand, fi themes of Moharramslnh Lupine and Sabin AlhryhVsmbmayh.

11-6-part of the decorations inside the sanctuary mixture of delicate mosaic tile bricks multiplicative effect Province.

12-6- travel corridor on both sides of the road there is a subtle grid of tiles(For women who wanted to oust the congregation of men, for him to come to the question of Imam mosque) on top of two inscriptions copies of mosaic tile installation.

Right hand, fireproof Allah: and Allah Alhkm of La Ilaha Ho Beneficent the Merciful.

One Almsajd Allah Almighty Allah fireproof left hand Fela'sTdv with Azim true authorship.

13-6- dome ceilings role of geometric shapes of the tiles embedded in one of those named in the previous Gnbdst dome figure is as follows:

"Saadbin Mohammed al-action pass AnbnaYazdi"

14-6-on the bottom floor under the dome Jzrhay Shamse and bergamot and very beautiful flowers that the design of geometric and floral patterns and to attract the mosaic tile. (Afshar, 150: 1374).
GEOMETRIC ORNAMENTS

Art Bench is a nation that has always mixed art with life, your taste often living in building the needed equipment is used and therefore that Iranian art is often decorative.

Iran's decorative arts such as humans, animals, plants, landscapes and nature or parts of them have been Vbkar, but because the wood can not work in textiles and ceramic tiles, as presently should be similar to the nature Ramraat, Iranian artists at the beginning and the initial stages, art motifs preferred motifs of nature summary and next steps are, Including those of Turkmen carpets of sun and stars, instead of the sun often put eight corner and Sun are decorated with various colors and vertical lines Or stars that are left on the sidelines, much like it does in fact are not real star.

SHAMSE AND STAR MOTIFS

Shamse is a symbol of diversity in unity and unity in diversity. In this role has emerged that forms the center of Sateh have been great. The role of light evokes the concept of the names of God. (Stari 1376: 53).

PENTAGRAM

Cinque and the five senses of human beings usually know .dd five in the Islamic tradition is important. Five people of the cloak, the five pillars of Islam, the Prophet arch five ....
Inside the dome mosque in Yazd Vbsvrt bar fringe motifs of stars and Shamse have to just nested roleand all the walls of the south porch of the dome is home for work tape. Shamse on the sidelines of a dozen full, five-pointed stars have been involved in large numbers.

**EIGHT-POINTED STARS**

Most of the motifs used in Yazd Mosque has been working for eight-pointed stars including the role that the fifth-sixth cent rosette flowers. Eight-pointed stars of rotation of two squares in both emerged from the long number eight, number-coded acted sun. And in Islam as "eight paradise" "eight eight doors of Paradise" is expressed (Imam 63: 1381). Part of the eight-pointed star motifs used in the Mosque of Yazd Mosque in the eastern seen Dropyshany head.

(Figure 1) in the center of the two circles a star that is nested within it there are inscriptions in third. On the sidelines of the stars arabesque beauty and fawn with white flowers and foliage color blue mosaic tiles can be seen (Hussain, 37: 93).

**THE STAR-FILLED**

In the book known as the Ikhwan al-Safa officials conduct ten times for every time there are ten features. Ten return to show unity. Because the first step is to export starts a new plurality. The mystical one and ten are the same as hundreds of thousands (Barati 78: 1380).

**SHAMSE TWELVE FULL**

Twelve full twelve Shamse used in this Shamse can be attributed to the vision of the architect Twelver Shia. In fact, this number is important in terms of Astronomy fancy funeral.

A full twelve Shamse south porch on the inner wall (dome) and the walls have been left at the bottom.

Shamse on the grounds that the walls have been covered with turquoise blue hexagonal tiles curved radius is Shamse. Curves consisting of two strips of ultramarine blue (bold) and is rusty. Shamse itself is shaped like a sunflower.
Another dozen Shamse used to fill in the mosque in a box Square Garden is located in the south wall tile mosaic print and fringes around the map with white beading. At the center of this role is a full twelve Shamse inside which is decorated with arabesque stucco.

At the center of a flower arabesque (star) eight can be seen that in the end leads to arabesque. Outline the role of a Chinese knot work.

**SEVENTY-TWO FULL SHAMSE**

Shamse used in the largest mosque in Yazd on both sides of the main (east) is closed. This Shamse has a radius of seventy-two golden. In Shi'iism number of martyrs of Karbala 72 72 reminiscent of Shamse can somehow this symbol is reminiscent of the Battle of Karbala. This Shamse within a rectangular box Varasth the arabesque is located in the center of the Name of Allah, Muhammad Ali is closed.

![Figure 15. Shamse the full twelve used in domes, houses, Source: same](image)

![Figure 16. Seventy-two full entrance Shamse Source: same](image)
CRESSET

Icicle lights as well as niche means that the ceiling be nailed (Dehkhoda: under "Icicle"). Kandil role of the first century AD, appeared on the stone altar and after a while the tombstones and altar were also involved tiles (Danesh-Yazdi, 73: 1387). As its name Brnyayd this element is linked to a bright light. In simile Quran SatehNyznvry to the entire world and all things in the universe particles that constantly stream in the form of grace and mercy."Heavens Valarz Allah Noor" (Light: 64).

Kandil role Yazd mosque in the middle of a stone Mrmrmhrab like to be seen predominantly in the South porch. As of motifs suggests, lanterns among an altar by a chain of eight loop is hung from the ceiling. This is bowl-shaped stalactites form. On body work and its role includes diamond that is a decorative bar in the center of each of them is located on the circular Jstgy. It seems that the upper part of Kandil around the edges of the grooves.

Because the Shiites in the south porch to guide the light that is the worship of One God.

ALTAR MOTIFS
Modify the altar of Islam among the Arabs, there is much more. The word comes from the verb HarbHarbMsrshVmhrabh taken that thought to person to person, the war between the two are Vsrmny is Aftayh (Sajjad, 50: 1375).

In verse 13 of Surah Saba Tabatabai wrote: "The word which means Nmazgah Mharyb the altar and place of worship, word Tmasyl the image that is meant to mosque every Chyzast" (Tabatabai, 260: 1363).

According to the above meanings, use of the role of Yazd Jame Mosque in relation to the place of worship and a symbol of the pious before God, because the majority of altar designs have been used as a mosque in the southern balcony and, as mentioned, South Avon Vbadt is the most important place for prayer. On the south porch attached to the wall are two columns façade is decorated with mosaic tiling. Arabesque motifs like an altar that just work.

Designs for four distinct colors white turquoise blue water of La Jordi Vhnayy that the usual color all the tiles of the mosque. This role will have rows and all levels are the views (Fig. 19).

CONCLUSION
Throughout history, always between art and spiritual traditions derived from religion is very closely there. Art is the most important manifestation Shiite mosque because the local mosque for worship masses were considered, as well as the political meaning is quite obvious. In other words Mosque confluence of three elements: politics, religion Vtqat orientation of the masses.

Mosque in Yazd motifs Shamse and star motifs, as Qandil, altar-like motifs, stucco motifs chain, etc. that make up the motifs used ShamseVstarh most designs. Shamse symbol of diversity in unity and unity in diversity and diversity is an expression of God's attributes.

It is important motifs used in mosque Which is considering the establishment of a central government Sunni discussed at the time of making the designs builders and founders of a religious Shiite thought.
Some of these geometric designs such as Shamse 72 Vaslymy the entrance dome home, index-images used in Yazd Mosque that other buildings from the era of greatness and the beauty can not be found. The motifs in terms of aesthetics, diversity of designs used and the integration of sophisticated geometric patterns are also notable with arabesque.

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INVESTIGATION OF AESTHETIC PREFERENCE THE SIMPLICITY AND THE COMPLEXITY OF THE VISUAL QUALITIES OF MOTIFS IN ISLAMIC ARCHITECTURE

Massud Wahdattalab
Assistant Professor, School of Architecture and Urbanism, University of Tabriz Islamic Art University, Tabriz, Iran

Amin Nikmaram
M.A in Architecture, School of Architecture and Urbanism, University of Tabriz Islamic Art University, Tabriz, Iran

ABSTRACT
Simplicity and complexity are opposite concepts, which seems to be the one causing another loss and unlike other concepts of art in almost all natural and man-made phenomena are in several grades and can become things of beauty and pleasantness. As a human achievement, architecture to respond to the needs and aesthetic preferences of its users, the results of evaluating the effects of motif with simple and complex traits can be of interest for architects and designers. The purpose of this research is to understand that this taste and aesthetic preferences of people who are designers or architects for their design tends towards simplicity or the complexity? This tendency is related to age, sex, education, and social trends there? Is it simply a tendency or complexity in all activities and places his presence is constant or varies according to space and activity? This research is a descriptive study, survey and correlation. Reading methods for data collection, documentation used, as well as to evaluate designs with a variety of activities from a questionnaire survey method is used. The study population consisted of 400 residents of the city of Tabriz in 4 ages, 4 level of education and 4 religious beliefs were considered to describe population variables knowledge of society, statistics descriptive name and to check variable keys connection this research of data analyze for aesthetic preferences, according to the opinion of the participants major statistics using spss software ver.19 are used.) Findings show that people prefer that their buildings are designed by architects for this rather simple, and simplicity in the design of religious buildings, official, sports and leisure and home there.

Keywords: simplicity, complexity, aesthetic, motif, Iranian-Islamic architecture.

INTRODUCTION
The concept of complexity in architecture could be defined on the basis of its opposition to simplicity or indeed what is obvious and primary. Von Meiss, Pierre (2004) indicates that “when the elements are categorized in a way that inspire more than one deduction to the viewer and it is what is called complexity” (Von Meiss, Pierre, 2004:58). He introduces ways to deal with complexity among which we could point to perversity of norms, divergence or asymmetry, anomaly of regular pattern or deviation from familiar forms (same: 60). Simplicity is in contrast with complexity: Simplicity, an attraction of simple forms, lines, circles, spheres, cubes, pyramids and so on which have lasted for thousands of years. In some cases, when the complex structures are easily converted to simplicity, we capture a sort of satisfaction, peace and praise. Gombrich believes that simplicity is essentially tied to the culture of the West Classic. In the East we could still find the traces of these simple and concise forms: from Isfahan Jameh Mosque to Zen Art. Spiritual happiness arising from simplicity is probably related to our inside physiological and perceptual preferences. Recognition of the border between simplicity and banality is ambiguous. There are
major latent differences between beauty and prettiness! Simplicity in architecture and urban design is acquired only by a graceful and pretty solution. Voltaire declares “Beauty is always simple but everything that is simple is not always beautiful” (same: 66). The Kandinsky hypothesis states that basic shapes such as circle, triangle and rectangle are very beautiful in some colors (specified colors) (Jacobsen, 2002).

Birkhoff (1932) defined the relation between order and complexity in mathematical term. He indicated that beauty increases with regulation and reduces with complexity. He described order based on repetition and redundancy and complexity was an expression of diversity. The Eysenck studies (1941&1942) on the relation between aesthetic computed by Birkhoff formula in 1932 and participants rating on beauty indicated that both order and complexity participated as positive factors in perception of beauty (Machado, et al., 2015).

Ferith & Nias used the variation in complexity in their studies. The information theory approach made it possible for them to provide objective measurements from a complex pattern. However most respondents preferred a medium level of complexity (Berlyne, 1970). Theorists have long believed that two aspects of complexity including diversity and order, are effective in creation of beauty. From this perspective, it could be said that beauty appears from "unity in diversity" (Tatarkiewicz, 1972).

Berlyne (1970&1971) was probably the first person who offered appropriate psychological explanations for effects of complexity. According to Berlyne framework (theoretical) order is not orthogonal with complexity, given that mess as a sort of complexity was intended with some elements. Several studies were conducted to test this hypothesis (using various visual stimuli). Recent researches showed that their results are highly dependent on the way in which complexity is defined, manipulated or measured (Nadal, Munar, Marty, & Cela-Conde, 2010).

Berlyne (1974) analyzed other psychological variables existing in this area such as severity and frequency, brightness and clarity, saturation and size. The factor of color was introduced as a visual stimuli in primary processing (Zeki, 1980) and a factor affecting the aesthetic preferences (Martindale & Moore, 1998). The concept of complexity is considered as an important variable in aesthetic of form. Berlyne believes that complexity of motif increases with increasing the number of elements that exist independently in it. With regard to Berlyne Theory in response to aesthetic presented in 1974, we explain that sense of satisfaction experienced by viewers about an object will increase with enhanced level of desired complexity. Then the desired level reverses and gradually decreases with increased level of resulted complexity (Bruni&Luigi Porta, 2007:130).

![Figure 1. The assumed relation between complexity and given effect by Wundt Curve](source: Berlyne, 1971:193)

Since simplicity and complexity are the two ends of a spectrum and a similar relationship is established between them with beauty, we can generalize the Berlyne theory by saying that increased simplicity / complexity can increase the beauty of an object or effect to an extent. This effect reverses when the effect transgresses this limit. There is a relationship between simplicity and complexity in understanding the
beauty of architecture which makes the addressee feel the beauty inspired by the relation. The beauty is understandable and achievable by both methods of simplicity and complexity, but its extent and rate follows certain elements. The interference of these elements makes a work which claims to be beautiful to change into a banal work. Sometimes a complicated work changes into a crowded and ambiguous object due to the ignorance of contributing elements (Farsi Mohammadi Poor).

The theory of Aesthetic Response was also studied in other areas including Aitken studies on random polygons (1974), Munsinger & Kessen studies on superiority of language (1964), Nicki & Gale studies on use of artificial artwork (1977), Saklofske studies on painting human visages which are all revealing the relationship between pleasure and complexity (1975) (M. Messinger, 1998:558).

**RESEARCH METHODOLOGY**

The present research is a descriptive (non-experimental) and correlation survey study. Data were collected through three methods: Reading, documents and theoretical foundations in a way that the reading method was used to develop theoretical foundations of research, the field method with survey was used to determine the dimensions of aesthetic and elegancy of motifs with a variety of practical activities of subjects. The descriptive and inferential statistic was used for data analysis. The descriptive statistic was used to describe the demographic characteristics of the sample population, the data analysis as well as aesthetic preference of motifs methods were used to investigate the suitability and relevance of key variables of the study. The inferential statistic using SPSS Software ver.19 was used on the basis of subjects’ idea.

To determine the validity of tools content, the ideas of professors and professionals experienced in the subject were considered. With regard to these individuals’ ideas, the final questionnaire was distributed among the sample. The Cronbach’s alpha was used to determine the reliability of the questionnaire. The Cronbach’s alpha of all questionnaire items was equal to 0.695 by SPSS Software ver.19 which signifies the internal correlation between questions and data. So the reliability of the questionnaire data was pleasant and the data was validated.

<table>
<thead>
<tr>
<th>Number of Cases</th>
<th>Cronbach's alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>0.695</td>
</tr>
</tbody>
</table>

Table 1- Valid Statistics- Source: SPSS Software, ver.19

<table>
<thead>
<tr>
<th>Type of data</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validated data</td>
<td>279</td>
<td>69.8%</td>
</tr>
<tr>
<td>Invalidated data</td>
<td>121</td>
<td>30.2%</td>
</tr>
<tr>
<td>Total data</td>
<td>400</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2- Summary of data processing-Source: SPSS Software, ver.19

The variables of this research were divided into two groups of dependent and independent variables. The dependent variables in present research include tendency towards complexity (or simplicity) and independent variables include sex, level of education, age and religious beliefs.

**Sex:** sex was measured at binary nominal scale and options included men and women.
Level of Education: Educational level was measured at nominal ordinal scale and the options and related values included illiterate, high school diploma, diploma, associate's degree, bachelor's, master's and Ph.D.

Age: Age was measured at ordinal scale and the options included under 15, 15 to 25 years, 25 to 35 years, 35 to 45 years and above 45 years.

Religious Beliefs: Religious beliefs was measured at ordinal scale and the options included irreligious, normal and religious.

Statistical Population- Sample and Implementation Method
The Subjects were 400 residents of Tabriz among which 84 people were between 0 to 15 years age range (41 females and 43 males), 72 people were in 15 to 25 years age range (36 females and 36 males), 84 people in 25 to 35 years age range (42 females and 42 males), 61 people in 35 to 45 years age range (30 females and 31 males) and 99 people were in age range of over 45 years (49 females and 50 males).

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq</td>
<td>Perc</td>
</tr>
<tr>
<td>0 to 15 years</td>
<td>43</td>
<td>10.75%</td>
</tr>
<tr>
<td>15 to 25 years</td>
<td>36</td>
<td>9%</td>
</tr>
<tr>
<td>25 to 35 years</td>
<td>42</td>
<td>10.50%</td>
</tr>
<tr>
<td>35 to 45 years</td>
<td>31</td>
<td>7.75%</td>
</tr>
<tr>
<td>Over 45 years</td>
<td>50</td>
<td>12.50%</td>
</tr>
<tr>
<td>Sum</td>
<td>202</td>
<td>50.5%</td>
</tr>
</tbody>
</table>

Research Hypothesis
This research possess one major and 3 secondary sub-hypotheses which are all supplementary in one direction. The hypotheses are as follows: to verify these hypotheses, several questions were designed which are to be described as follows:
Procedure
The motifs used in this research belong to Islamic era which are at almost average level in terms of simplicity and complexity. The questionnaires tested 5 criteria which lead to the simplicity and complexity of motifs as follows: Color (cold and hot with tonality in 1 and 2 rows), delicacy and coarseness of the joints (row 3), elegance and thickness of joints with twists (row 4), increasing and decreasing the number of elements and details of motifs (row 5), increasing and decreasing the number of elements and details of motifs with twist (row 6).
Each of the motif rows were manipulated with move to the left toward complexity and the move to right toward simplicity. Reduced extraneous elements, removed angles and corners and summarized designs were used to simplify the designs. The numerous and complex compression elements, the plurality of angles and sub-components were also used to make the designs more complex.

Diagram 2. Movement of simplicity and complexity in tested motifs-Source: authors

Questionnaire
The applied questionnaire included the three following parts:
First part: Personal background of respondents such as age range, sex, level of education and religious beliefs (optional)
Second part: This part includes a set of questions about respondents' sense of beauty and aesthetic. Among the motifs presented in the third section of the questionnaire, the best and most beautiful motifs were to be selected for desired activities (administrative, educational, residential, sports and religious) which assess the suitability (fitness) of designs for different spaces and functions (administrative, educational, residential, sports and religious).

Third part: It includes 6 manipulated rows which represent 5 pairs of contradictory traits as follows: soft and sharp lines, elegant and rough lines, few and numerous elements, the right way and distortion, chromatic cool and warm colors.
Results of Questionnaire Analysis by SPSS Software, ver.19

According to the sampling and questionnaire data, the index or mean criterion was calculated for each question. (Numbers representing each form are only to identify the shapes and are achieved based on a nominal scale).

q1, q2, q3 and q4 are variables respectively introduced for means answered in questions 1, 2, 3 and 4. S1, S2, S3 are qualitative variables reflecting the tendency to simplicity and complexity in questions 1, 2, 3 and 4 and each is a grouped variable with two 0 and 1 groups.

q5 to q8 were introduced for questions 5 to 8 on the basis of nominal scale with 0 and 1 codes. Descriptive statistics were calculated for variables of questions 5 to 8 which include central and dispersion indices. The mean value with only two amounts of 0 and 1 (questions 5 to 8) identifies the ratio of samples with code 1.

The skewness for variable 5 is negative and close to zero (skewness to leaf). It is positive and close to zero for other variables (skewness to right), however its rate is not too high. Besides, the kurtosis or Chamfer frequency curve compared to normal standard curve is negative for all negative variables (Chamfer frequency curve).

According to the abundance table of Question 5, 61 % of second row figures and 37.5 % of people prefer the first row figures. Since the figures differ only in color, so we come to conclusion that aesthetic sense of modern people is more inclined toward cold colors.

<table>
<thead>
<tr>
<th>Question 5</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Validated data percentage</th>
<th>Cumulative percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available data</td>
<td>First row</td>
<td>150</td>
<td>37.5</td>
<td>38.1</td>
</tr>
<tr>
<td></td>
<td>Second row</td>
<td>244</td>
<td>61</td>
<td>61.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>394</td>
<td>98.5</td>
<td>100</td>
</tr>
<tr>
<td>Lost data</td>
<td>No response</td>
<td>6</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5. Frequency of question 5-Source: SPSS Software, ver.19

In question 6, with regard to frequency table, the figures of third row with the highest point (57.5%) are higher than frequency percentages of fourth row (41.2%). The respondents assessed the right figure motifs more beautiful than tilted motifs in terms of aesthetic aspects.

<table>
<thead>
<tr>
<th>Question 6</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Validated data percentage</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available data</td>
<td>Third row</td>
<td>230</td>
<td>57.5</td>
<td>58.2</td>
</tr>
<tr>
<td></td>
<td>Fourth row</td>
<td>165</td>
<td>41.2</td>
<td>41.8</td>
</tr>
<tr>
<td></td>
<td>Sum</td>
<td>395</td>
<td>98.8</td>
<td>100</td>
</tr>
<tr>
<td>Lost data</td>
<td>No response</td>
<td>5</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6. Frequency of question 6- Source: SPSS Software, ver.19

In question 7, 68% of respondents preferred figure 2 in row 3 which confirms the results of question 6.

| Question 7     | |
|----------------||
Table 7. Frequency of question 7-Source: SPSS Software, ver.19
In question 8, 59.5% of respondents selected figure 6 in row 3. So we come to the conclusion that soft angles of motif cannot attract the attention of survey respondents in relation to the selection of distorted motifs. Right motifs are still in beautiful shape.

Table 8. Frequency of question 8-Source: SPSS Software, ver.19
Since both variables are based on the nominal scale, Phi and Cramer's correlation coefficient were used to obtain a correlation between color (hot and cold colors) and sex (male and female). According to the results in the below table, we see that the ratio of men who selected the second row (cool colors) was more than women in this statistical population. In other words women preferred warm colors and men preferred cool colors in terms of aesthetic aspects.

Response to question 5 distinguished by sex

<table>
<thead>
<tr>
<th>Number</th>
<th>Sex</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>woman</td>
<td>man</td>
</tr>
<tr>
<td>Question 5</td>
<td>First row</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>Second row</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>Sum</td>
<td>193</td>
</tr>
</tbody>
</table>

Due to the constant coefficient of Phi and Cramer and a significance level less than 0.05, (Table 9) the hypothesis of independency of these two variables is rejected. So there is a relationship between sex and choice of hot and cold colors.
Hypothesis Testing

After describing variables and responses obtained from the population, this section examines the hypotheses raised in statistical tests used in the study in order to evaluate the accuracy of our assumptions and prove the verity or untruth of proposed hypothesis by data analysis.

**Hypothesis 1: Contemporary aesthetics is more inclined to simplicity.**

H$_0$ (Null Hypothesis): In terms of contemporary aesthetics, there is no difference between average of people inclined to simplicity and complexity.

H$_1$ (Alternative hypothesis): In terms of contemporary aesthetics, there is a difference between average of people inclined to simplicity and complexity and this tendency is more towards simplicity.

The result is summarized in following table: The table shows the statistical group of T-test independent samples. This table contains the number of cases, the mean value, standard deviation and standard error test variables defined in conjunction with the categories defined by the group variable (simple and complex). Given that we want to compare the average of the two groups it would be useful to know the average values.

The aesthetic sense of people was evaluated according to figures in question 1. 228 people were interested in simple shapes and the average score given to question 1 was equal to 5.87 which is more than the standard mode (score 5) set to distinguish between simplicity and complexity.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Complexity</th>
<th>Simplicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>172</td>
<td>228</td>
</tr>
<tr>
<td>Average</td>
<td>3.305</td>
<td>5.871</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.1336</td>
<td>0.6535</td>
</tr>
<tr>
<td>Standard Error</td>
<td>0.0864</td>
<td>0.0433</td>
</tr>
</tbody>
</table>

The above instructions creates two different tests between the two groups of tendency towards simplicity and complexity. The Levene statistic tests this hypothesis. In the first test (first row) it is assumed that the variance of the two groups is equal. Since the significant level of first Levene's test is the small (<0.05), we use the results which did not assume the equality of variances or the second row in other words.
With regard to significance level, the null hypothesis related to equality of variances is rejected. Now the results of the second row shows a small level of significance for T-test. This small level of significance (<0.05) shows that there is significant difference between two groups (tendency to simplicity and complexity) and rejects the null hypothesis. The important thing here is that there is a close relationship between confidence interval and hypothesis testing. The diagram shows the difference between the groups (tendency to simplicity and complexity).

Table 11. Dependent T-test - Source: SPSS Software, ver.19

### Hypothesis 2: The religious people show more tendency to simplicity.

**H₀: (Null hypothesis):** Different groups (in terms of belief) show no differences in terms of tendency toward simplicity and complexity. Religious beliefs have no effect on the type their point of view.

**H₁: (Alternative hypothesis):** There is significant differences between different groups of faith and the tendency to simply. According to null hypothesis, the average willingness of the population in three groups is the same in terms of religious beliefs. Therefore, we study contemporary aesthetics (in terms of tendency to simply and complexity) among all religious groups using ANOVA.

Table 12 shows the descriptive statistics (mean tendency to simplicity, standard deviation and standard error). Among total 400 samples, 6 people were irreligious, 117 people were normal, and 170 were religious. The average tendency towards simplicity in irreligious and ordinary people groups (in terms of belief) were nearly identical. But the mean value was more in religious group.

<table>
<thead>
<tr>
<th>s1</th>
<th>Number</th>
<th>Mean</th>
<th>Deviation</th>
<th>Standard Error</th>
<th>95% confidence interval for average</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower bound</td>
<td>Upper bound</td>
<td></td>
</tr>
<tr>
<td>Irreligious</td>
<td>6</td>
<td>0.50</td>
<td>0.548</td>
<td>0.224</td>
<td>0.07</td>
<td>1.07</td>
<td>0</td>
</tr>
<tr>
<td>Ordinary</td>
<td>117</td>
<td>0.51</td>
<td>0.502</td>
<td>0.046</td>
<td>0.41</td>
<td>0.60</td>
<td>0</td>
</tr>
<tr>
<td>Religious</td>
<td>170</td>
<td>0.65</td>
<td>0.477</td>
<td>0.037</td>
<td>0.58</td>
<td>0.73</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 12. Descriptive Statistics - Source: SPSS Software, ver. 19
Table 13 of Levene Statistics, null hypothesis, rejects the equality of variances due to the significance level of 0.002 which is lower than 0.05.

<table>
<thead>
<tr>
<th>s1</th>
<th>Levene Statistics</th>
<th>Variance 1</th>
<th>Variance 2</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6.270</td>
<td>2</td>
<td>290</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Table 13. Variance equality test - Source: SPSS Software, ver.19
Decision on the authenticity of null hypothesis could be achieved on the basis of comparison of dispersion between two estimates of inter-group and intra-groups. Since the intra-group comparison estimate was sufficiently smaller than inter-group estimates and the F value (ration of inter-group mean square to intra-group mean group) was more than 1 and with regard to significance level of 0.038, we reject the null hypothesis (Table 14).

<table>
<thead>
<tr>
<th>s1</th>
<th>Sum of squares</th>
<th>Level of freedom</th>
<th>Square mean</th>
<th>F</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intergroup</td>
<td>1.582</td>
<td>2</td>
<td>0.791</td>
<td>3.311</td>
<td>0.038</td>
</tr>
<tr>
<td>Inter-group</td>
<td>69.271</td>
<td>290</td>
<td>0.239</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sum</td>
<td>70.853</td>
<td>292</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

So there is significance difference between different belief groups and level of tendency toward simplicity. The religious beliefs affect the insight of people.

Diagram of Averages

Graph
After rejecting the null hypothesis, the multiple comparison was used to define the difference. Ben Ferroni is one of the simplest multiple methods shown in following table.

<table>
<thead>
<tr>
<th>s1 Ben Ferroni</th>
<th>(I) Level of Religiosity</th>
<th>(J) Level of Religiosity</th>
<th>Mean difference (I-J)</th>
<th>Standard error</th>
<th>Level of significance</th>
<th>95% confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irreligious</td>
<td>Normal</td>
<td>-0.004</td>
<td>0.205</td>
<td>1.000</td>
<td>-0.50</td>
<td>0.49</td>
</tr>
<tr>
<td></td>
<td>Religious</td>
<td>-0.153</td>
<td>0.203</td>
<td>1.000</td>
<td>-0.64</td>
<td>0.34</td>
</tr>
<tr>
<td>Religious</td>
<td>Irreligious</td>
<td>0.004</td>
<td>0.205</td>
<td>1.000</td>
<td>-0.49</td>
<td>0.50</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>-0.149*</td>
<td>0.059</td>
<td>0.036</td>
<td>-0.29</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Irreligious</td>
<td>0.153</td>
<td>0.203</td>
<td>1.000</td>
<td>-0.34</td>
<td>0.64</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>0.149*</td>
<td>0.059</td>
<td>0.036</td>
<td>0.01</td>
<td>0.29</td>
</tr>
</tbody>
</table>

*The mean difference is significant at 5% level.

Table 15. Ben Ferroni multiple comparison-Source: SPSS Software, ver.19

It is evident that people with more level of religious beliefs (religious) are significantly more inclined to simplicity compared to people with ordinary beliefs. There is no significant difference between the two groups of religious and irreligious people as well as the irreligious and people with ordinary beliefs. So the hypothesis that religious people have more inclinations toward simply is not rejected.

**Hypothesis 3: Young people are more inclined to simplicity. The old people are more inclined to complexity.**

\( H_0 \): (Null hypothesis): Average tendency to simply is equal to average tendency to complexity among different age groups.

\( H_1 \): (Alternative hypothesis): There is significant difference between the averages of these tendencies.

The result is shown in following table. The first table shows the descriptive statistic in all age ranges.
Table 16. Descriptive studies - Source: SPSS Software, ver. 19

Table 17 of Levene statistics rejects the null hypothesis of equality of variance groups (the significance level is less than 0.05).

<table>
<thead>
<tr>
<th>s1</th>
<th>Levene Statistics</th>
<th>df1</th>
<th>df2</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.684</td>
<td>4</td>
<td>395</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Table 17. Test of Homogeneity of Variances - Source: SPSS Software, ver. 19

The F statistics and its related significance level is shown in Table 16. We cannot reject the null hypothesis because the significance level of 0.434 is more than 0.05 and the F34 ratio is close to one (0.952) which shows that the null hypothesis is correct because both of them are an estimate of population variance.

<table>
<thead>
<tr>
<th>s1</th>
<th>sum of squares</th>
<th>Level of freedom</th>
<th>Mean Square</th>
<th>F Statistics</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intra-group</td>
<td>97.103</td>
<td>395</td>
<td>0.234</td>
<td>0.952</td>
</tr>
<tr>
<td></td>
<td>Inter-group</td>
<td>98.040</td>
<td>399</td>
<td>0.246</td>
<td>0.434</td>
</tr>
<tr>
<td></td>
<td>Sum</td>
<td>98.040</td>
<td>399</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 18. Analysis of variance - Source: SPSS Software, ver. 19

The Ben Ferroni in table 19 shows that there is not a significant difference between the groups in terms of their tendency to simplicity and complexity, because none of the pairs are significant in the columns of mean difference. None of the pairs are significant so age difference has no effect on the change of aesthetic tendency towards simplicity or complexity. The hypothesis which says that young people are more inclined to simplicity and older people are more inclined to complexity is rejected.
Table 19. Multiple comparison- Source: SPSS Software, ver. 19

**Hypothesis 4: the more educated people have more tendency to simplicity**

There is no statistical significance difference between individuals’ aesthetic preferences and their level of education, however this difference is significant in home environment, office and educational spaces. It seems that people with higher level of education have more tendency towards simplicity at home and working places. This tendency is toward complexity in people with very high or very low educational degree. The difference is not also significant amongst different educational groups in educating places (in terms of level of significance).
Table 20. Descriptive statistics- Source: SPSS Software, ver.19

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>28</td>
<td>3.4</td>
</tr>
<tr>
<td>Gender</td>
<td>52</td>
<td>27.3</td>
</tr>
<tr>
<td>Education</td>
<td>12</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Table 21. Homogeneity of variance test-Source: Spss Software
CONCLUSION
According to this study, contemporary aesthetics is more inclined towards simplicity. With regard to the point that 1 to 7 grades were regarded for each of the figures applied in the questionnaire from left to right, and grade 5 was set as the interval between simple and complex motifs and the mean degree was equal to 5.87 which is more than the standard grade (grade 5), so the hypothesis that contemporary aesthetics is more inclined toward simplicity is verified. According to present study, people with more religious beliefs have more tendency towards simplicity. In fact the average tendency of people to simplicity is almost identical in both groups of religious people and people with ordinary beliefs (in terms of belief), however the average value is higher in religious group. The Levene statistics obtained for null hypothesis denies the equality of variances in different groups. There is significant difference between diverse groups in terms of belief and tendency toward simplicity and the religious inclinations affect the people’s point of view. According to Ben Ferroni comparison, the people with more religious beliefs (religious) are more significantly inclined to simplicity compared to the people with ordinary beliefs. Besides, there is
significant difference between two groups of religious and irreligious as well as irreligious and people with ordinary beliefs. So the hypothesis that people with religious beliefs have more tendency to simplicity is not rejected. According to the present study, the young people are not inclined to simplicity. In fact age has no impact in the change of peoples’ aesthetic tendency toward simplicity or complexity. The hypothesis that younger people are more inclined to simplicity is rejected. The present study shows that people with higher level of education are more inclined toward simplicity in house and working places. In religious environment, this tendency amongst people with very high or very low educational background is toward complexity. There is also no significant difference between diverse educational groups in educating places.

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IRANIAN ELITES’ CULTURAL HEGEMONY DURING THE SELJUK AND ITS INFLUENCE ON THE ART OF METALWORKING

Mehran Golestan
PhD student .University of Art. Tehran. Iran
golestan_mehran@yahoo.com

S.Saeed S.A.Zavieh
Associate Professor .University of Art .Tehran. Iran
zavieh@art.ac.ir

Mohsen Rahmani
MA Illustration .Shahed University. Tehran. Iran
a2nias@yahoo.com

ABSTRACT
Iran has an ancient and influential history among the Middle East countries, so the review of Seljuk history in Iran may create new perspective into this era in terms of study nature. In addition, several researches have been published in the field of Seljuk's art history in Iran and Rome. In this paper, seeking for a fundamental goal, we aimed to consider a different approach to study the metal works remained from Seljuk era in Iran during 11th and 12th century AD by going through systematic literature review and library documents, in particular literature pertaining to the sociological concepts like Antonio Gramsci’s idea about, with the aim of achieving the impact of the presence of society's political and cultural elites on the creation of these works. Finally, the most important result obtained by studying and observing the most outstanding metal works of Seljuk era is the cultural hegemony of elites. As it was expected in the magnificent era of Seljuk Kings, Iranshahr thought, which was inspired by Ancient Iran in the words of ministers and scholars invited to the court as cultural and political elites, directly affected the beliefs and behavior pattern of the society and subsequently the favor of artists and then overshadowed the creation of artistic works, and the present article is intended to explain it.

Keywords: Iran’s art, Seljuks in Iran, cultural hegemony, Iranshahr thought, Aristocracy, metal works

INTRODUCTION
Traditional arts and crafts of Iran, as one of the most important and magnificent fields of Islamic Arts, is a medium through which the ancient culture of Iran is linked to the contemporary art. In this while, Iran, the Seljuk’s art might be a sign of a nation's efforts to preserve the legacy of the ancients, to the extent that the artists of that era not only trying to regenerate old traditions of art, but also get help of their innovation and creativity to revive Iranian culture; it leads to maintain and introduce one of the significant Persian arts, i.e. metalworking as the most popular cultural identity of the Seljuk era.

Investigation and study about the art of Seljuk era indicates the complexity and multi-aspect of the art in Seljuk era. Investigation of metalworking art of Seljuk from historical and analytical perspective in the previous literature indicates the necessity to complete artistic studies by adopting different approaches and using various methods such as sociological approach which is the viewpoint of this article, because adopting every kind of approach and attitude toward one of art’s aspects will form a certain type of associated method.

The purpose of this article is to analyze artistic products (censer) of Seljuk era to specify that how much the prevalent hegemony of that era has dominated the space of Arts and Culture? Therefore, researchers have used arts sociology to validate the content.
STATEMENT OF THE PROBLEM
Undoubtedly, extensive historical studies and descriptive approaches have been considered by the researchers to investigate Arts and Cultural works in different historical periods and many articles have been published in this particular field. Although this type of studies are essential and successful in their place, they are incomplete because do not consider causal relationships and are not able to explain all the aspects of art sociology, especially the viewpoint taken in this article, that is the hegemony of elites.

Therefore, the second form of the study which is causal investigation is free of this deficiency. Causal investigation means that the researcher, as Max Weber says, does not start from the point that the arts are existed, but first he asks that why and how the arts are created? This question which can be solved by investigation and analysis of sociological approaches has not been studied by the researches as it should be.

The importance of such questions is proposed in the theory of intellectuals like "Antonio Gramsci", "Arnold Hauser" and "Karl Mannheim" and they have said to understand a work of art, it is sufficient to refer to the social and economic conditions in which the creator of the work had been, especially to his social class, and then to know him; in this case we can understand his work as well. According to Karl Mannheim, artistic styles emerged throughout history represent and reflect the desires of groups and classes that create them, means that he considers the forms directly related to social structures such as social groups and classes.

Hauser also believes that art is more influenced by social factors rather than any other cultural structures, although this effect is hidden but it exists.

Accordingly, the role of Seljuk Turks in Iran’s Art history is organized in a way that most historians and artists consider their government as the bloom of Islamic art in Iran during the past fourteen centuries. Although the domain of Seljuk empire encompasses from China to Andalusia, they have not considerable art due to the nomadic life; but after coming to power and expanding their empire from Central Asia to Egypt, a scientific-artistic rebirth and renaissance in the Islamic world, especially Iran, was occurred. At this time, academic, cultural and political situation of Iran paved the way for scientific, cultural and artistic development and growth by the emergence of prominent figures such as Nezam al-Molk, Hakim Omar Khayam, Khaghami, Nizami Ganjavi, Mohammad Hassan Sabbah, Naser Khosro Qobadyani, and Imam Mohammad Ghazali and ... as cultural elites.

The cultural space during Seljuk era had caused the Kings and rich men to financially support and sponsor the artists and craftsmen. Although these extensive supports were owing to the political purposes, it led to the emergence of a special style and procedure in arts and crafts (from Khorasan to Mousel), which was later called as "Seljuk school" by the scholars of Islamic art. Seljuk Schoolin their empire domain was manifested with distinctive features compared with the periods before and after in most of artistic fields.

THEORETICAL FRAMEWORK
It should be pointed that artistic creation is a part of social realities, taking a new form by the evolutions in social periods proportional to the social needs, and then come to existence from inside the life current. Accordingly, we can agree with György Lukács and Lucien Goldman believing that, art works of each era is influenced by the social and economic conditions of that time. In other words, socioeconomic conditions of the artists or his social class determines his choice of style and content, but is have to be considered that this relationship is not direct and is established by the worldview and ideology.

"Andre Godard" the French orientalist and scholar of Iranian studies says that: "art is primarily the reflection of the artist’s spirit and the abstract of forces that leading him ... and the important principle in art and architecture of a nation is the community spirit of them".

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"Antonio Gramsci", Italian sociologist, believes that civil society is the requirement of hegemony, and put it against the oppressive government. He means hegemony to exercise cultural leadership and mastery from the ruling class. Gramsci's emphasis on cultural leadership and mastery has two meanings. First, the supremacy related to the process inside the civil society thereby a single class exercises his intellectual and moral mastery on other classes. Second, supremacy refers to the relationship between dominant classes and dominated classes. Here, supremacy is the successful efforts of the dominant class to use their power for controlling social resources. In his view, the ruling class has acknowledged a supremacy (or dominant influence) that convince other classes to accept their values, ethics and ideas in the most natural way. He sees art products as a hegemonic tool serving for the ruling class, to establish a consensus on power. When we compare the concept of hegemony and ideology, we see that ideology is inherently static, whereas hegemony has dynamic nature.

From Antonio Gramsci’s perspective, hegemony means to produce cultural consensus and satisfaction. On the other words, hegemony means a kind of self-fabricated and self-motivated satisfaction. On the contrary to the ideology that is from top down, forceful with deception and cheating, hegemony would be intertwined with all the aspects of human lives such that takes the form of common sense. Ideology has got a political aspect, while hegemony has cultural one. On the other hand, according to the concept of ideology by Althusser, there is no possibility of resistance and struggle, but Gramsci argues that hegemony is a combination of domination and resistance.

Hegemony refers to a situation in which a temporary coalition of social groups can lead to the social authority on other subordinate groups. This authority is not exercised only through the use of force or direct imposition of governor's ideas, but also by satisfying and shaping it, so that the power of the dominant classes would be appeared to be both legitimate and natural. Hegemony can only be maintained when the dominant classes are successful to shape all the competing definitions in the framework of their desire; means that they should always try to show it permanent and normal.

Gramsci added that the hegemonic power can never be permanently exercised by the alliance of "parts of the dominant class" precisely because it requires the consent of the dominated majority. In the other words, hegemony is not universal and not delegated to the permanent and continuing government of a particular class. Hegemony must be provided, reproduced, and maintained. As Gramsci said, hegemony is a Moving Equilibrium that include the relationships of favorable or unfavorable forces, on this or that tendency.

Maintaining and continuing the hegemony by the society requires the dominant groups to support their functional groups by privileges such as wages, facilities, services, etc. Therefore, there is a high degree of consensus and social stability in a hegemonic society, and the dominated classes support the values and ideas given by the dominant class and link them to the power structure in the society.

From the standpoint of cultural theories, culture has not a constant existence and is affected by current struggles and debates. Therefore, mass culture is the area of collision between dominant and dominated forces in society. Means that, there is a dialectic between the dominance field and resistance field in the culture. Thus, according to the theory of hegemony, cultural products, unlike the Frankfurt School, are not single, sealed, and imposed and not considered solely as a tool of domination, but rather a mix of top to bottom, forced, spontaneous, hegemonic and resistive cultural flows.

METALWORKING ART, THE MANIFESTATION OF SELJUK THOUGHT AND CULTURE CONQUEST
On the basis of what was said and the theory of Hegemony, the question that comes to mind is that, can Seljuk metal works be considered as a mixture of top-down cultural flows or elite hegemony? If yes, based on what evidences we can prove the hypothesis that metal works are bedrock of elite hegemony.
For this purpose, we should note consider two notes: first, metalworking in Seljuk era covered the aspects of Islamic art by preserving the grandeur, splendor and elegance of ancient Sassanid period. The encouragement and supports of Seljuk for excellence in the art were also effective in a way that many artistic developments emerged in the fields of architecture, metalwork, ceramics, glass, textiles, and so on by the appearance of this school, which was especially flourished in Khorasan and Isfahannomads. Many arts were complemented compare to the previous periods and innovations were achieved in most arts and crafts that absorbed the consideration of artists and craftsmen all around the world.

Second, metalworking art of Iranian Seljuk is one of the most brilliant traditional arts in Iran after Islam, and the artists in the eleventh and twelfth centuries have produced the best metal work in all areas including the necessities of life such as dishes, bowls, and cups, ewer, candlestick etc.

Additionally, metalworking art of Iran is the reflection of a society produced it. Life styles, mental concerns, desires and ideals of the supporters and Kings are all expressed through the performance and value of the things used by them. Metalworking as an art-craft has traditionally achieved an important place among other art crafts. Iran’s metalworking art reflects national moods and emotions in different period of times and has been together with Iranian people’s fortune during all the events, even the conquest of aliens. About the year 1037 AD, by the arrival of the Seljuks in eastern Iran, Islamic metalwork brilliant period began.

Important governmental centers of Seljuk in this era were Marv, Nishabour, Rey, Isfahan and other cities such as Hamadan, Sistan, Herat and Mosul that most of these areas have been considered as important metalworking centers.

In this era, metalworking and manufacturing metal products reached to the highest quality, popularity and prosperity and Khorasan province has been a pioneer in this field. Perhaps, the reason for the primacy of this city is that, during the Samanid Empire (819-999 AD), Khorasan was the largest center of production and manufacture of Bronze utensils and their design in accordance with the graphic styles of Ancient Iran or Sassanid Style. (Figure 2) Just because of some additions and nuances in the works, experts can find out the nature and time of production.

Also, given the penchant of the rulers in Mazandaran region along Caspian Sea during Buyid dynasty (934-1062Mylady) to their historical background, they protected the utensils remained from Sassanid Empire metal in their homes, and metalwork artists of this region emulated these works. Therefore, most of metal dishes of Iran are obtained from this region.

Metal objects of Buyid dynasty include medals with the pictures and sculptures made of gold and silver with the Iranian Prince’s name; and as mentioned, there are objects at the interface between Sassanid metal objects showing Islamic spirit and concepts (Figure 3). Although courtier scenes, such as celebrations, ceremonies, hunting, fetes and music in this era was different from Sassanid art in terms of clothing from, but the contents of Sassanid dynasty are observed in some detail. Thus, Buyid era is considered as the brilliant ages of the metalworking industry.

In the review of arts in Abbasids Caliphate era, it has been said that the artists of this period of Islamic art believe that the use of precious metals such as gold and silver is forbidden; so the best metalworking was performed with bronze in Khorasan and West Turkestan. But Buyid artists not only ignored Abbasid beliefs, but also started to compete with the metalworkers of Sassanid dynasty in Iran. In this while, numerous gold and silver plates, gold cups and also medals decorated with carvings of the princes were made. It was thought in the past that, the silverware of this period should be referred to Sassanid era, because the dishes portrayed the art of Sassanid craftsmen. However, a detailed survey on the methods observed in previous work determined that these objects were made during Buyid dynasty.
"Katly" and "Hamby", in the book “Safavid and Khwarizmi about the art of metalworking” wrote: "metalworking in Seljuk period was of especial prosperity and development, this technique was always on a high level of construction quality and established unique artistic goals. These goals were almost met because numerous metal dishes, especially those made in Khorasan, had the date, signature, and signs of adept founder, gravure makers, and practitioners”. In support of this statement, Mohammad Hassan wrote: "metalworking industry Seljuk era, and flourished through the Seljuk lands that were outstanding in this area, this province is located in the front line. Maybe it's the province Samanid empire era (261-389 E. 847-999M) center of a large and utensils made of bronze and decorated with ancient map of the Sasanian style." (MH, 1377, 25)

Therefore, it can be supposed that Islamic metalworking in Iran follows the art of Sassanid era, with a difference that craftsmen started to make dishes and objects from other metals and alloys such as bronze and iron due to the inhibition of using precious metals in the production of applied dishes and objects. Changes in the religious beliefs and the materials led to the development of this art in accordance with society’s beliefs and customs, especially in the eastern Iranian tribes.

Most of metal products and variety of works during Seljuk era in Islamic states including Iran were made of copper and its alloys such as bronze and brass. Most of them were also patchworked with precious metals like gold and silver, and efforts were undertaken to decorate them as possible. Many of these products are not intended for daily use, but also have been prepared for officials and wealthy people with decorative and ceremonial application.

Lukac believes that, there are some artworks in a particular society which reasonably similar despite apparent differences, and containing the same attitudes about life, death and the supernatural world. The most important of these artworks in fact act as a filter conveys the common idea of that era. Lukac considers the idea of single-worldview as a factor that enables us to put an artwork in its existential and everyday human perspective.

Therefore, an artwork can be understood in the context of social conditions it has been created; and the characteristic of these social conditions is its dominant worldview. Thus, a metalwork master who had made metalwork has been in a society and a social group, in more details. This society and social group had got a certain and specific worldview, and he had adopted this worldview following to its social group, then reflected its concepts and illustrative essence in his work of art. It should be noted that this process takes place unconsciously, not in a way that artist adopt a worldview consciously and tries to illustrate it in his work. As “Goldman” says: the more is the cohesion of an artist to the social group, and the wider is his social eyesight, he can better convey his desired worldview (either unconsciously or consciously).

Accordingly, it can be said that Seljuk metal works in Iran reflect the social conditions of archaism thought reproduction age leading to the expansion of making such works combined with the picture of mythic animals in Ancient Iran. Although this reflection is not direct and acting through worldviews and ideologies which is affiliated to the class system of that time. In the above example, ministers and thinkers of Seljuk dynasty convey the worldview in archaism thought.

Lucian Goldman believes that everybody is member of social groups and this membership is reflected in his thinking, emotions and behavior. The relationships between humans and the relationship between human and environment in the larger social groups are reorganized so that the social structure would be survived. Awareness, feelings and behavior of the members of these larger social groups are inspired by this reorganizing. Goldman interprets this kind of comprehensive relationships as "worldview". According to his interpretation, worldviews are originated from social groups and developed in them. Thus, in the given period of time, Seljuk bureaucrats turned into a worldview called Iranshahr thought.

Regarding to the explanation of social causality of art by the means of worldview, Goldman also believes that the characteristic of cultural works is that in which the person wants to achieve a correlated world
consistent with a certain worldview. The problems is that it is not possible for all the people to achieve such a correlation, unless partially and approximately. The question arises here is that how we can achieve such a correlated world in Seljuk era? The answer might be that, creative writers have contributed to this collective self-consciousness by describing and introducing this worldview. It can be found by taking a look on the books published in this era on the basis of Ancient Iran ideas that, to what extent the attention of artists and authors have been drawn to this worldview either unconsciously or consciously. For example, according to what is in the history books, the Seljuk was the first government in the Islamic era that could extend the boundaries of its territory as that of Sassanid era, in the West. These victories and extension of territory and authority achieved by the Seljuk Kings had to be combined with political legitimacy. Perhaps, it is why the role of Iranian Ministers was thereafter more manifested in terms of linking the power of Seljuk King with power levers of Sassanid era. Means the same correlated world considered by Goldman which can bring many people together based on a worldview. But on which part of the governmental structure this worldview crystallized itself? Perhaps the answer lied in the history of domination of various tribes and rulers over geographic area of Iran.

An overview on the governance of Seljuk before entering Iran shows that they ruled based on tribalism and were dependent on Iranian bureaucracy to administer their territory. Actually, it was Iranian bureaucrats who assisted them to continue their government and authority using Iranian-Islamic tradition. The Seljuk were initially aware of their weaknesses to administer regions like Khorasan. The Seljuk Togrul said to Qazi Saed at the triumph of Nishabour City that: “we are new and alien people who do not know Iranian customs”. Therefore, they resorted to the assistance and tact of Iranian bureaucrats in political, social and cultural decisions to compensate for this weakness, as with most of Iran’s conquerors. It should be noted the Seljuk bureaucracy rooted in the beforehand traditions. A root which can be called "Iranshahrthought".

**IRANSHAHR THOUGHT, THE MANIFESTATION OF IRANIAN ARISTOCRACY:**
A glimpse on the history of Iran in early centuries and prior to the emergence of Seljuk in Iran shows that the extension of territory and geographical dispersion of Islamic lands caused different ministries and seigniors to be gradually formed as parallel powers along with Abbasid Caliph and then made independent and dependent governments as well as ruling dynasties such as Buyid and Ghaznavian under the titles of King and Sultan to remind the experience of pre-Islam regimes in Iran. In addition, local governments across Iran paved the way to declare their dependence on Ancient era and attribute their pedigree to the Ancient regimes. Insomuch as it has been mentioned in historical books that, many dynasties and local Amirs tended to construct self-made correlated and ideological world were eager to the attribution of Ancient backgrounds. Taherian dynasty were likely to attribute their generations to Rostam, al-Ziarto Kaveh, Buyid to Bahram Gur, Samanid to Bahram Chubin and historians have tried to attribute the pedigree of the Seljuk dynasty to the ancient Afrasiab.

The attention and consideration to ideal kingdom is well known in the opinions and ideas regarding of Seljuk minister, Nizam al-Mulk, insofar as he connects Iranian wisdom and Islamic tradition. Nizam al-Mulk, in his book entitled Siasat Nameh – which is a kind of guideline - hasobviously considered the King having divine curls and generalizes Iranshahr theory to some of Iranian caliphs and kings in Islamic era.

"Edward Brown," argues that a principle whereby a divine right of kings is attached to the king has no firm followers except Iranian of Sassanid era.

Seljuks also used the pre-Islam titles of Iran. In this regard, a document issued in 1062 AD from Tugrul Epistles Court mentioned him as "king" according to Sassanid kings.

Nizam al-Mulk and bureaucrats of the time, as the court ruling elites, could also resort to a kind of cultural control. In this elite hegemony, they (mostly) rule not by mere force and power, but through the guiding and the encouragement pathway. Hegemony is the projection of norms, values and worldviews
injected by dominant elites, and therefore, elite play important role in the creation, acknowledgement and distribution of cultural products. Thus, the elites of Seljuk era could make the ideas consistent with their interests in the form of art. They provided the contexts for the emergence and appearance of Iranshahr thought as the dominant worldview among social groups including artists, bureaucrats, scholars and … by the production or reproduction of common ideas for guiding and encouraging. A lot of books written in that period can be cited such as a Tajnameh, Tarikh al-Vozara, Shahnameh, Siasatnameh by Nizam al-Mulk, Tohfat al-Vozara by Abu Mansur Abdul Malik Salby, Tarikh al-Vozaraby Aboalirja’a Qummi, Bayhaqi history, Tajareb al-Omam by Abu Ai Miskawayh that looking at Ancient Iran in the Islamic period.

Totally, what has been mentioned in these books include moral and social points and contain essential plans addressed to the successors for the revitalization of Sassanid traditions. Hence, its reproduction can be accounted as the conscious construction of social awareness in order to coordinate intellectual bases dominant on Iranian Seljuks.

"Janet Wolff" in the book “social production of art” book, believes as Lukács and Goldman that, although the work of art is not a direct reflection of collective consciousness and social conditions, but also is closely related to it. Janet Wolf states that artwork reflects the ideology, but this ideology is expressed in artistic works and exercises its effects due to the aesthetic codes. Therefore, the values and ideas of the artist which are formed socially, are conveyed through artistic conventions. Means that, the ideology created under special social conditions in sica classes and wants to be manifested under the conditions of making cultural works and by the means of artwork, is reconstructed owing to these artistic conventions and manifested indirectly. For example, the artist could show artistic criteria of the mentioned era in the texts of literati, in the words of bureaucrats and in a form equals to ancient era. An example is the metal works in the form of mythological winged animals, much like the examples of the Sassanian era. An example of a ring from Seljuk era is an evidence (Figure 5). In addition, metal joss stick burners made under the inspiration of a combined animal belonging to the Sassanid era can be mentioned (Figure 6). All these samples or other remaining items such as Alp Arsalan plates (Figure 7) are examples of the artist in this cultural atmosphere emanating from elite hegemony and reproduction of the ancient thought that can be seen in the metal works of this era.

CONCLUSION
The extension of Ancient Iran’s metalworking – in particular, Sassanid era either in terms of construction or from – can be pointed out by investigating and adapting the production space of metal works and cultural space of Seljuk era in Iran. Metal working in the Seljuk period reflects social conditions of the age of archaism thought reproduction. This is not directly reflected, but also seen in metal works through the elite hegemony. Investigation of the works by the scholars and bureaucrats of that time, as the community of elites and dominant class, indicates the production and reproduction of common ideas for guiding and encouraging artists to be attached to the dominant worldview or Iranshahr thought. The creation of artworks by the artists, like the literal texts remained from that time, is the result of the elites’ impact acting like a bedrock for the emergence of concepts and contents confirmed by the society in the most beautiful and finest possible way within applicable, decorative or even luxury samples.

Investigation of the works remained from Seljuk era, especially available metal works, are successful to remind this historical approach and reflect the elite hegemony extended by the bureaucrats and scholars of that time. Each of these works suggests a part of social idea of its era. Finally, reading any of the visual signs, symbolic designs and historic or artistic objects discovered from the house, Bazaar, or the house of public opens a page of their own history and culture for us based on sociological and anthropological approaches, which its sample may not be found in any version or text stayed behind.
**Picture 1.** Bronze candlesticks, silver casting, 6-7 century AH, Reza Abbasi Museum, Tehran, Iran

**Picture 2.** A part of gilded silver plate, scrimshawcasting, 6-7 century AD, Reza Abbasi Museum, Tehran, Iran
**Picture3.** A part of gilded silver plate, hammering and gilding, decorated with Gil Gamesh Myth with Kufic handwriting, 400 AH, Reza Abbasi Museum, Tehran, Iran
Picture 4. Silver bowl with motifs of human, animal, and plant, 10 AD, Iran

Picture 5. Seal ring with the motif of winged lion inspired by mythical beliefs and legends before Islam, Metropolitan Museum, New York, America
Picture6. Metal joss stick burner, with animal motifs inspired by the animal dishes of Sassanid era, Metropolitan Museum, New York, America. H: 24.5; L: 29.5 cm
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Picture 7. Alp Arsalan Silver plate, decorated with a Kufic inscription, 459 AH
THE IMPACT OF SOCIAL NETWORKS ON THE SOCIAL HEALTH OF ADOLESCENTS AND YOUNG ADULTS IN ARDABIL

Vahid Abolhasanzadeh
Yazd University, Iran
vabolhasanzade@gmail.com

Javad Maddahi
Yazd University, Iran
gmaddahi@yahoo.com

Hamid Mohammadi
Yazd University, Iran
Hamidsafar17180@gmail.com

ABSTRACT
The objective of this study is to identify the effects of virtual social networks on the social health of young people. And the question, “Do virtual social networks effect the social health of young people”, is addressed. The main hypothesis of this study is: “There is a relationship between the rate of using virtual social networks and the social health of youth.” The theoretical framework of this study is based on the theories of Keyes, Giddens, and Larson regarding social health, and communication skills theories of Schneider, Berkman, Bartle, Giddens, and the network view and social model of Wellman regarding virtual social networks. In this study, which is a field study, 800 young people from Ardabil in 2014-2015 were selected, using the cluster sampling method. Data was gathered using the Keyes social health questionnaire and a questionnaire regarding virtual social networks. The obtained social health of young people followed an approximate normal distribution. There is a statistically significant relation between relating with friends, internet advertisements, social involvement, negative behavioral effects, invading individual privacy, income, and education with young people’s social health. In regression analysis, the variables that form the model, determined about 19% of the changes in the variance of social health. The strongest predicting variables were: relating with friends, and internet advertisements. We can conclude that the social health of young people, as a social construct, is effected positively and negatively by virtual social networks.

Keywords: Social health, social networks, effects, adolescents, Ardabil

INTRODUCTION AND PROBLEM STATEMENT
The center of sustainable development is a healthy person. Modern societies wish to create a favorable environment for production and the necessary acceleration to achieve comprehensive development. "Health is where all human efforts takes place in it and if there is an acceptable level of health, people will be able to benefit from other sources of life" (Babai, 2003). The most widely accepted definition of health is the one by World Health Organization: "Health is a welfare state of complete physical, mental and social and not merely the absence of disease or disability" (Habrsak, 2013).

Today, social health as one of the aspects of health, along with physical, mental, and spiritual health has received great importance, so that health is no more just lacking physical and mental problems health is not just freedom from disease, but also how human acts in social relations and his thought about the community are known health assessment criteria at large scale of community (Samaram, 2009).

In general, the social dimension of health includes levels of social skills and performance and the ability to recognize oneself as a member of the larger community. In this regard, any person is a
member of the family and the member of a larger community. Given that social health emerges in the context of society and the relations between persons in social networks, then we can say that social relationships and virtual social networks can also be one of the factors affecting people's social health. With the vast expansion of social networks, in the present age, especially among young people, along with increasing social problems that arise from this technology and the virtual world to control and deal with it, interaction, and how to use it must be studied and taught the people especially the younger generation (Gholizadeh, 2015: 6).

Presence in cyberspace and the use of the Internet use, especially in the Third World cities, whether with professional motivation, with entertainment motivation, whether continuous or temporary, according to the features, characteristics and facilities unique to this space profound effects are made on different aspects of identity and consequently, the lifestyle of Iranians, especially young. In fact, Iranian users, according to objective and subjective structures in the real world and according to the type and extent of their use of the Internet receive a wide range of influences and changes gradually (Khatibi, 2005: 10).

In addition, social networks can play an important role in meeting the physical, psychological, social, and economic needs. Network members can directly help a person and assist him in spreading his calls and somewhat overcome his personal deficiencies in her family background (Power, 1988). In contrast, the rapid and comprehensive development of social networking among young people has raised questions about its possible implications for users and society. These technologies have changed lifestyles of young people more than the other traditional life styles. Thus, an interesting question is how young people build their identity in a technological world, which ultimately affects the health of their community (Amirpour, 2013).

Social health importance is so much that young people enjoying the social health can cope with problems caused by the main social role more successfully. They live in families that have more stability and possibly can participate in more activities that are social and their compliance with social norms expects to be more. This can play an important role in preventing diversions that extends beyond the realm of individual behavior (Abdullah Zadeh, 2008).

THEORETICAL BASICS

In this study, five-part Keynesian theory is used as a model for defining and providing indicators of social health concept. Then, using the ideas of Halbwachs, Berkman, Giddens, Larson, Wellman, Bartley, ecology perspective and the perspective of the network, its relationship with economic status, education, gender, and particularly social network effects have been dealt with. Keynesian measure of social health at the individual level is five including 1) Social prosperity: social prosperity is assessing the potential of social evolution and the belief that society is in a gradual evolution and has the potential for positive changes that can be identified through social institutions and citizens. Healthy people are hopeful about the future of society and able to identify collective forces and believe that other people of the community will benefit from these forces and development (Tabardarzy et al., 2007). 2. Social Compliance: understand the quality, organization, and functioning of the social world are concerned in this aspect. Socially, healthy citizen tries to have more information about the world around them, to link them to others in the same community (Keynesian, 2004). In this aspect of public health, the perspective of ecology that emphasizes the individual's connection with the environment is used. In human ecology, environmental and human interdependence and mutual interaction are studied. 3. Social acceptance: this aspect of public health points out that the social version of self-acceptance is acceptance of others. In fact, people who have a positive attitude to their character and accept both good and bad aspects of life are people with mental and social health (Hezarjaribi, et al., 2012). Virtual reality and functions of this way can act in making abnormal assumptions about identity. People in virtual chat rooms could change to ones as exactly they want or exactly how they want other people to see them. 4. Social participation: in social participation, people feel that they have something valuable to offer to the community, citizens think that in their daily activities, the community values them. In the definition social participation, Halbwachs states that it is the values of community where the person is a member. If the people live within their values and norms, in fact,
they have participated in social life (Tavassoly, 2003). Accordingly, community participation is the belief through which the person knows himself as a vital member of the community and these people are trying to feel loved and to be involved in a world solely for their human values (Samaram, 2009). Berkman said that by joining social networking opportunities will be provided to individuals, to participate in community events, significant social roles, social roles such as work, family and parenthood is defined this way individual social health are improved (Kheirollah Poor, 2006: 43). 5. Social cohesion: evaluation of a person is with regard to quality of his accompanying with the surrounding community. Social cohesion is individual assessment of the quality of social relations and social groups. Healthy person feels that he is a part of community and knows himself as common to others who make up the social reality.

The main block of the network is connection and network perspective studies social relationships between groups of individuals to analyze the social structure. This view believes that social processes of personal consequences, in spite of constant personal characteristics such as gender, essentially are defined through the patterns of relations between actors in social networks (Salehi, 2005).

Wellman believes that, at present, there is a kind of anxiety and concern for the community and people in the modern world have always feared, lest their society excludes them and encounter loneliness and alienation. Wellman, in the social abandoned model, believes that relations in the modern world cities are neither entirely gone nor predominantly have rural and neighbor use, but have dispersed state and less neighborhood can be seen. In the abandoned community, people are members in multiple groups based on their interest. Network analysis view deals with community with this approach and believes that the community is not gone but has changed from neighborhood and neighbor state to scattered, dense and less bounded deformed and drastic social changes have failed to changes in the pattern and structure their relationships rather than destroy it completely (Gholizdeh, 2015). In Bartel's idea, the secret to the success and attract users to major websites is that the users see himself in the virtual world mirror. Thus, on identity in the virtual world, the question is to what extent the user likes the reflection of his image in the mirror. Giddens believes that virtual social networks by offering an empty container for the audience provide the opportunity for the user to fill the content and message as they wish to produce. Alternatively, by changes in the motif of the content and information going around in the world of the person, the form and type of communication change. In these circumstances, one can not expect that people's connection components together or separated by distance of time and place as considered by Giddens, the same type of communication and communication networks to bring that, in the traditional world view (Hosseinpur, 2010).

Rose and Wu suggest that people with higher education compared to those with low literacy in terms of psychological and social health are in a better position. In other words, a person's position in the social hierarchy provides conditions and characteristics that can overshadow his health. Schneider and colleagues define communication skills as the relationship between the individual and the environment and as a means to launch and sustain a constructive relationship, and as an important part of public health. This has been used to explain the relationship between social networks with social adaptation (Hatami, 2010: 11).

RESEARCH BACKGROUND
Social health is a concept that beside the physical and mental health studies social aspects by focusing on individual health. The findings of Taylor (2012) show that social networks, combined with the influence of Western powers, have begun to move to the homogenization of the world. This move would create conflict in the world and move of some nations to defeat and the weakening of their national identity and traditions that may endanger their social health. In addition, he believes that, through these social networks, significant people around the world interact with each other, faced with an alien culture and beliefs, and are alarmed about the loss of their religious and national identities.

Garrido and Azpiazu results show that the general health status of women is lower than men in terms of socio-economic status and educational level (Garrido and Azpiazu, 2002). Income, occupation, education, and age are associated with public health.
According to Adler et al. (1994) and Anderson and Starr (1996), the underclass have lower public health and the health of mineworkers is never as much as doctor and university professor (Karayeb, 2004). Fixed employment plays a major role in social skills, experience, and social networks, and as a result, social health of individuals. Employment in top positions and as a result, more money also plays a role in the formation of healthy identity and self-esteem.

Hellman (1994) argues that low level of education is associated with poor social health, poverty, poor distribution of income, high levels of unemployment, lack of social security and low levels of literacy are among the factors affecting public health (Wilkinson, 1996).

Jomehnia (2008) studied the relationship between social health and identification styles of high school students of Gonbad. The results showed that between girls and boys, in terms of public health in participation and social cohesion, there is a significant difference, while there was no significant difference between girls and boys in social reception and prosperity and social compliance of other aspects of social health.

Moreover, there is a significant relationship between social health and identification style. According to research by Azhir, male and female students in Sanandaj have no significant difference in terms of public health (Azhir, 2006).

**RESEARCH METHODOLOGY**

In this study, Considering that the our goal is to assess the relationship between impact of social networks on social health youth, is used Traversal method. In order to collect data are used the questionnaire and gather information related to theoretical discussions used the Internet search and the library. In this study to measure social health variables is used Keyes (1998) Standard questionnaire. Item reliability of the questionnaire was estimated through The content validity method Of formal. The number of our sample selected 800 adolescents and young adults in Ardabil by cluster sampling and were measured.

In the present study, Cronbach's alpha was calculated, using data from preliminary tests with the help of computers and software spss. To chart a path analysis is used Amos software.

**RESULTS AND FINDINGS**

**Sex:** There is a difference between sex and social health of young people. In order to compare the average social health of man and woman, was used t-test2. The results of these tests are shown in Table 3.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Categorie s</th>
<th>Number</th>
<th>Average</th>
<th>Standard deviation</th>
<th>t</th>
<th>Degrees of freedom</th>
<th>significanc e level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Health</td>
<td>Man</td>
<td>551</td>
<td>77/78</td>
<td>6/726</td>
<td>12/168</td>
<td>798</td>
<td>0/000</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>249</td>
<td>70/78</td>
<td>9/065</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As the above table, it is clear from the findings of independent t-test results, that the social health mean women and men are different and the social health men is more than women.

**Family income and social health**

There is a relationship between education and social health of young people. The variable income is expected to have a significant role on the social health respondents. So to evaluate the correlation between income and social health of the respondents have used Pearson correlation test results that are shown in Table 4.

<table>
<thead>
<tr>
<th>Table 4. Correlation matrix between the income and social health</th>
<th>1582</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submit Date: 21.06.2016, Acceptance Date: 23.07.2016, DOI NO: 10.7456/1060AGSE/040 Copyright © The Turkish Online Journal of Design, Art and Communication</td>
<td>1582</td>
</tr>
</tbody>
</table>


According to the table above, between the family income and social health was obtained the significant and positive correlation. In other words, High income, promote social health of humans.

**Education and social health**
There is a relationship between Education and social health of young people. In order to determine the relationship between the use of social networks and social health was used the Pearson correlation coefficient. The results of these tests are shown in Table 4.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Fluishing</th>
<th>acceptance</th>
<th>participation</th>
<th>acceptance</th>
<th>cohesion</th>
<th>social health</th>
</tr>
</thead>
<tbody>
<tr>
<td>income</td>
<td>0/011</td>
<td>0/113**</td>
<td>0/102**</td>
<td>0/117**</td>
<td>0/097**</td>
<td>0/081</td>
</tr>
</tbody>
</table>

A significant inverse correlation is a result between education level of respondents and the social health that is evidenced by the table above. In other words, the social health of individuals is reduced if the respondents higher education.

**Social Networking and Social Health**
There is a relationship between the use of virtual social networks and social health of young people. In order to determine the relationship between the use of social networks and social health was used of the Pearson correlation coefficient. The results of these tests are shown in Table 5.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Fluishing</th>
<th>acceptance</th>
<th>participation</th>
<th>acceptance</th>
<th>cohesion</th>
<th>social health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationships with friends</td>
<td>0/233**</td>
<td>0/132**</td>
<td>0/064</td>
<td>0/207**</td>
<td>0/107**</td>
<td>0/258**</td>
</tr>
<tr>
<td>Development of partnerships</td>
<td>0/057</td>
<td>0/130**</td>
<td>0/377**</td>
<td>0/236**</td>
<td>0/069*</td>
<td>0/249**</td>
</tr>
<tr>
<td>Internet advertisement</td>
<td>0/083*</td>
<td>0/447**</td>
<td>0/257**</td>
<td>0/070*</td>
<td>0/001</td>
<td>0/247**</td>
</tr>
<tr>
<td>Education</td>
<td>0/048</td>
<td>0/126**</td>
<td>0/019</td>
<td>0/191**</td>
<td>0/108*</td>
<td>0/140**</td>
</tr>
<tr>
<td>Promote rumors</td>
<td>0/003</td>
<td>0/091</td>
<td>0/081</td>
<td>0/125*</td>
<td>0/049</td>
<td>0/090</td>
</tr>
<tr>
<td>Anti-religious propaganda</td>
<td>0/003</td>
<td>0/091</td>
<td>0/081</td>
<td>0/125*</td>
<td>0/049</td>
<td>0/090</td>
</tr>
<tr>
<td>Privacy Violation</td>
<td>0/009</td>
<td>0/326**</td>
<td>0/228**</td>
<td>0/253**</td>
<td>0/016</td>
<td>0/289**</td>
</tr>
<tr>
<td>The negative impact behavior</td>
<td>0/087</td>
<td>0/128**</td>
<td>0/081</td>
<td>0/051</td>
<td>0/055</td>
<td>0/051</td>
</tr>
<tr>
<td>Positive impact network</td>
<td>0/024</td>
<td>0/271**</td>
<td>0/209**</td>
<td>0/350**</td>
<td>0/112*</td>
<td>0/319**</td>
</tr>
<tr>
<td>negative impact network</td>
<td>0/040</td>
<td>0/239**</td>
<td>0/194**</td>
<td>0/187**</td>
<td>0/041</td>
<td>0/195**</td>
</tr>
</tbody>
</table>

The significant positive correlation between the use of virtual social networks and social health, a result that is evidenced by the table above. In other words, the use of social networks have a positive and negative impact on social health. This result confirms the hypothesis. Other columns above table shows the correlation of social networking Dimensions and social health.

**Regression**
In this section, the multivariate regression was used to explain the factors set. Multivariate regression is a statistical method that considers how independent variable explained dependent variable changes as well as how much is the effect of each of them. To achieve this goal were used the stepwise regression methods. The impact of social networking on social health of The regression results with stepwise is shown in the table below.

### Table 8. Results of multivariate regression analysis to assess the effect of independent variables on social health

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>B</th>
<th>Std. error</th>
<th>Standardized coefficients</th>
<th>T</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationships with friends</td>
<td>0.627</td>
<td>0.096</td>
<td>0.211</td>
<td>6.525</td>
<td>0.000</td>
</tr>
<tr>
<td>Internet advertisement</td>
<td>0.564</td>
<td>0.087</td>
<td>0.211</td>
<td>6.520</td>
<td>0.000</td>
</tr>
<tr>
<td>Development of partnerships</td>
<td>0.568</td>
<td>0.094</td>
<td>0.196</td>
<td>6.035</td>
<td>0.000</td>
</tr>
<tr>
<td>education</td>
<td>1.467</td>
<td>0.350</td>
<td>0.135</td>
<td>4.185</td>
<td>0.000</td>
</tr>
<tr>
<td>The negative impact behavior</td>
<td>0.227</td>
<td>0.088</td>
<td>0.085</td>
<td>2.567</td>
<td>0.010</td>
</tr>
<tr>
<td>Privacy Violation</td>
<td>0.221</td>
<td>0.097</td>
<td>0.075</td>
<td>2.272</td>
<td>0.023</td>
</tr>
</tbody>
</table>

Based on the above table, the coefficient of correlation between independent variables and social health variable equal to $R=0.439$ and Adjusted R Square equal to $R=0.186$ is obtained. And indicates that 19% of the variance of social health variable determined by the independent variables. The regression model explained by ANOVA, linear and significant. Because the F-test for independent variables explain a significant effect on social health is equal to $31.488$ with significance level $P=0.000$. Finally, with respect to Beta values of the independent variables in the table above; Relationships with friends Beta = 0.211, Internet advertisement Beta = 0.211, Development of partnerships Beta = 0.196, education Beta = -0.135, The negative impact behavior Beta = -0.085, Privacy Violation Beta = 0.075, Have the greatest impact on social health.

### The findings related to structural equation modeling assumptions

In this section, findings related to the main hypothesis and sub-hypotheses of hypothetical model presented.

<table>
<thead>
<tr>
<th>Index</th>
<th>RMR</th>
<th>RMSEA</th>
<th>NFI</th>
<th>CFI</th>
<th>AGFI</th>
<th>GFI</th>
<th>$X^2/df$</th>
<th>$X^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.449</td>
<td>0.054</td>
<td>0.86</td>
<td>0.90</td>
<td>0.96</td>
<td>0.98</td>
<td>3.33</td>
<td>63.42</td>
</tr>
</tbody>
</table>

### The Result of main hypothesis study

The aim of this research was to develop a clear understanding of how is The Effect of Social Network on social health. Path analysis will show whether the main hypothesis of this study – model fit with data obtained from the sample of study- will be confirmed? Although simple relationships between variables revealed to us some hints, but manifold and complex relationships between variables revealed through the Path analysis. The results of Path analysis based on correlation matrix between the variables showed that The model have a Good fitness with the data.
The Result of the secondary hypothesis study: In the table below, the direct and indirect effects of the aspects of social networking on social health has been shown. The numbers in parentheses indicate the t test. As can be seen, variables of the relationship with friends, Development of partnerships, Internet advertisement, Privacy Violation and The negative impact behavior, have direct and significant impact and variables of education, promote rumors, anti-religious propaganda, have indirect impact on the dependent variable. Variables of the relationship with friends, promote rumors and education have a direct impact on the development of social partnership. Also, variables of the anti-religious propaganda and promote rumors have significant direct impact on the variable privacy violations. Finally, the variable anti-religious propaganda, promote rumors and educations, have a direct impact on the negative impact behavior.

Table 10. direct impact, indirect impact and the total impact of predictor variables

<table>
<thead>
<tr>
<th>variables</th>
<th>direct impact</th>
<th>indirect impact</th>
<th>total impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>On social health</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationships with friends</td>
<td>(6/71)0/219</td>
<td>0/028</td>
<td>0/247</td>
</tr>
<tr>
<td>Development of partnerships</td>
<td>(6/16)0/201</td>
<td>0/021</td>
<td>0/221</td>
</tr>
<tr>
<td>Internet advertisement</td>
<td>(6/99)0/226</td>
<td>0/022</td>
<td>0/222</td>
</tr>
<tr>
<td>education</td>
<td>0/003</td>
<td>0/003</td>
<td>0/003</td>
</tr>
<tr>
<td>promote rumors</td>
<td>0/018</td>
<td>0/018</td>
<td>0/018</td>
</tr>
<tr>
<td>anti-religious propaganda</td>
<td>0/006</td>
<td>0/006</td>
<td>0/006</td>
</tr>
<tr>
<td>Privacy Violation</td>
<td>(2/62)0/085</td>
<td>0/085</td>
<td>0/085</td>
</tr>
<tr>
<td>negative impact behavior</td>
<td>(2/90)0/094</td>
<td>0/094</td>
<td>0/094</td>
</tr>
<tr>
<td><strong>development of social partnership</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationships with friends</td>
<td>(4/07)0/142</td>
<td>0/142</td>
<td>0/142</td>
</tr>
<tr>
<td>promote rumors</td>
<td>(2/32)0/081</td>
<td>0/081</td>
<td>0/081</td>
</tr>
<tr>
<td>education</td>
<td>(2/44)0/086</td>
<td>0/086</td>
<td>0/086</td>
</tr>
<tr>
<td><strong>On Privacy Violation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>anti-religious propaganda</td>
<td>(4/69)0/161</td>
<td>0/161</td>
<td>0/161</td>
</tr>
<tr>
<td>promote rumors</td>
<td>(6/28)0/216</td>
<td>0/216</td>
<td>0/216</td>
</tr>
</tbody>
</table>
CONCLUSION

In this study, 800 adolescents and young adults in Ardabil were studied. 68.9% were female, in terms of family income, 50 percent of respondents reported family income over three million tomans showing that the majority of respondents have high income. In terms of education, 69% of respondents have reported high school and diploma. Most respondents in terms of public health are at average to above reflecting that the positive effects of social networks were more than the negative effects.

First hypothesis based on a significant difference between genders in terms of public health was confirmed. Therefore, according to the findings of this study, social health scores between men and women are different. This is consistent with the findings of Garrido and Azpiazou, 2002, Jomenia, 2008).

The second hypothesis test result suggesting the relationship between education and social health was rejected. This result of the study is not consistent with the findings of Garrido and Azpiazou, 2002; Hellman, 1994; Adler et al., 1994; Anderson and Starr, 1996. So that by increasing education, social health is threatened, perhaps the main reason for this is that, after graduating people want social expectations and status and goals better than the others, and according to Merton as the tools of achieving these objectives is not possible, people are hurt as a result of which their social health is compromised. The third hypothesis is about the relationship between income and social health of people. The results of this study support the relationship between the two variables. These findings are consistent with results of Garrido and Azpiazou, 2002; Adler et al., 1994; Anderson and Starr, 1996. According to Adler and Anderson and Starr (1996), people of low class have less social health and the health of mine workers is never as much as doctor and university professor (Karayab, 2006). In the study, given that, most of the respondents had reported earnings above 3 million tomans, they will have higher social health and social health of the respondents in this study was reported to be moderate to high. That is as the average income of people increases, their social health increases as well.

Another result of the study is the relationship between the social network and social health, which is the fourth hypothesis. This variable is compose of virtual communication with friends and acquaintances, the development of social partnership, targeted online ads, education, rapid formation and distribution of rumors and false news, anti-religious propaganda and instill of doubts, violation of privacy and negative behavioral impact. The scale of the variable and its relation to social and health status are outlined. According to the findings of the research results, significant correlation was observed between the use of virtual networks and social health of individuals consistent with the findings of Taylor, 2012; McDonald et al., 1978. Larson defines social health as the quality of person's relationships with other people (relatives and community groups) that he is a part of them and believes that social health scale measures a part of person's health and includes inner responses of the person that indicate satisfaction or lack of satisfaction with life and the social environment (Larson, 1996). Based on the model of "abandoned community" by Wellman, in the abandoned community people are members in multiple groups based on their interested, followed by the view of network analysis believing that the community has never gone away, but have changed from local and neighborhood state to border, scattered, less dense and bounded form. Great social changes have both failed to make changes in the pattern and structure of their relationships and to destroy it. Therefore, we can say that lifestyle of the people has changed and social networks can have a positive and negative impact for individuals. In this paper, the positive effects of social networks such as continuous virtual connection with friends and acquaintances, web development, social participation, and online targeted advertisements are directly connected with public health and the dependent variable. This show the positive impact of virtual social networks on social health, which can be used as a modern tool to promote social well-being of individuals and society to be employed, so that healthy people feel that
they are a part of society. Therefore, social health is an area where people feel they have something in common with others and belong to community and social groups (Keynesian, 1998). Of course, the negative impact of behavioral variables and violation of privacy indirectly affect social health, but their impact has been very weak. Social health of adolescents and young adults has almost been normal and obtained as moderate to high. A significant relationship is proved between communication with friends, online targeted advertising, development of social partnership, the negative behavior impact, violation of privacy with their social health. In the regression analysis, variables in the model have been able to explain about 19 percent of variance of social health, where the strongest predictors are communicating with friends and targeted advertising. Therefore, we can say that adolescents' health as a social construct is affected by the positive and negative effects of social networks.

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THE STUDY OF THE EFFECTIVENESS OF TRAINING THE PRINCIPLES OF IMPROVING THE RELATIONSHIPS BASED ON GOTTMAN'S METHOD ON COUPLES' MARITAL SATISFACTION IN TEHRAN

Neda Nikounejad
M.A Graduated in General Psychology, Islamic Azad University, Science and Research, Ayatollah Amoli Branch, Amol, Iran
neda_nikoonezhad@yahoo.com

Habib Allah Naderi
The Faculty Member of Humanities and Social Sciences College, Mazandaran University, Babolsar, Iran

ABSTRACT
Background and Aims: marital satisfaction is one of the most important factors of progress and achieving life goals which is affected by couples' emotional stability. Therefore, the purpose of this research was to study the effectiveness of training the principles of improving the relationships based on Gottman's method on couples' marital satisfaction in Tehran. Materials and Method: It was a quasi-experimental research with pretest-posttest and control group. Statistical population involved all the couples without child that at least two years have passed since their marriage and they referred to psychotherapy and family health clinics in Tehran in 2013 and 2014. The sample included 40 couples who referred to these clinics to get marital counseling and they were selected by random cluster sampling. Then, they randomly divided into control and experimental groups (20 couples in each group). ENRICH couple scale (1997) and Gottman's couples' therapy scale (2009) was used to collect data in both pretest and posttest. The experimental group exposed to the independent variable (training the principles of improving the relationships based on Gottman's method) for two sessions of five hours. Statistical analyses performed to analyze data included ANCOVA test.
Findings: The findings showed that training the principles of improving the relationships based on Gottman's method had no significant effect on couples' marital satisfaction (P > .05); but has been effective on its subscales (emotional relationships, quality of sexual relationships s, trust, compromise and commitment) (P ≤ .05).
Results: The results showed that training the principles of improving the relationships based on Gottman's method can be a very effective way to increase marital satisfaction subscales and improve the couples' relationships.

Keywords: improving the relationships, marital satisfaction, Gottman

INTRODUCTION
Establishing relationships with people is very important for man as a social being because human beings innately want to be in public and away from the quiet and solitude since loneliness is associated with mental illness such as anxiety and depression. Establishing intimate relationships, especially after mental and physical maturity is necessary for every adult and these relationships are at peak at a young age, so that the person (male and female) is made to select mate, marry and form family. A high percentage of people make marital relationships at a stage of their (Halford, translated by Tabrizi et al., 2014). Husband and wife after marriage, more than anything else, realize that the first step to achieve peace together is their ability to communicate appropriately. However, expectations of many couples from marriage are high and they soon realize that their relationships do not meet these expectations. Thus, turmoil of relationships is a common problem in most Western societies (Halford, translated by Tabrizi et al., 2014) and Iran.
Relationships are valuable in resolving interpersonal conflicts. Relationships skills by strengthening social protections can be effective in increasing marital satisfaction. Satisfaction is referred to overall perceptions, feelings, beliefs, attitudes, responses, agreements and personal interests in marital life and satisfaction from that (Bakhshi, Asadpour and Khodadadyzadeh, 2007). The results of researches indicate that relationships skills are positively correlated with marital satisfaction and family conflicts resolution process can be simplified by enhancing these skills, (Ebrahimii and Ianbozorgi, 2008; Nazari and Navabinezhad, 2005; Aslani, 2004; Ghalili, Ahmadi and Fatehzadeh, 2006, Asoudeh, et al., 2011; McCullough et al., 1998; Robinson & Blanton, 1993; Nicole, 2006; Santayana, 2007; Amato, 2005).

Relationships are an important variable in understanding marital performance (Rasuli, 2001). Research suggests that marital relationships are a strong predictor of marital quality (Gottman, 1999). Kind of couples' interactions in living environment has direct relationships with feeling miserable or happy. Couples who experience deep, logical, friendly and intimate emotional relationships are successful people with high self-confidence, optimistic, happy and with a sense of happiness. Conversely, couples who do not have appropriate emotional relationships together are solitary, grumpy, with a very low level of consistency in society, unsuccessful, always disappointed with negative and with a sense of misery. Good relationships can improve communications and increase friendship, trust and support between couples. Ineffective relationships may weaken links and create distrust and hatred (Gillpatrick, 2008). If the couple do not right relationships skills and conflict resolution, conflicts continue verbally and then behaviorally and gradual destruction begins in couples adaptability (Douglass, Frazier and Douglass, 1995). Therefore, relationships problems are the most common and devastating problems in failed marriages (Yalcin and Karahan, 2009; Gurman, 2008) since dysfunctional relationships patterns cause important issues of life remain unresolved and be recurring source of conflict between couples (Halford, translated by Tabrizi et al., 2014).

To improve marital satisfaction, therapeutic and educational approaches can be used. Programs of prevention and improvement of marital relationships refer to any intervention during which destructive relationships behaviors are reduced and good relationships behaviors are improved and as a result dysfunction in interpersonal relationships is prevented (Cunningham, 2003). Gottman is one of the psychologists of marital area that has developed various educational programs to strengthen married couple's relationships. Gottman training program consists of educational services designed to enhance and enrich the relationships between close family members, especially spouses. This view emphasizes the significance of recognizing beliefs of people about cause of problems and helps clients learn skills that enable them to solve problems (Nazari and Navabinezhad, 2005).

Gutman believes that although capabilities and weaknesses of marriages are intensified under external crises and conditions such as unemployment or financial problems, this crisis alone are not reasons for marriage break-up. An issue such as less or much sexual relations is not the only factor. Even having adaptability and agreement in each case is not the factor for stability of marriage and success because in many happy marriages also experience dissatisfaction. What is important is agreement on what is acceptable (Gottman and Silver, translated by Ghorachedaghi, 2014).

Gottman's theory is an integrated approach and got help from principles and foundations of various therapeutic theories (Gottman, 1991). It support system theory where it says like a cycle, woman is influenced by husband and the husband by woman. It also supports existential view because it does not just look that what these conflicts are related to, but looks beyond those conflicts and in fact dreams of life and when these dreams are described, it supports narrative therapy.

Gottman method also supports a Psychoanalytic perspective since dreams usually refer to childhood of person and symbolic meanings of situations that have been somehow painful, and it supports behavioral approach where seeks behavior change because believes that the best way to change the results instead of trying to change perception of individual is changing behavior as perception comes after behavior. Thus, all these different psychotherapies are supported with findings of Gottman (Randall, 2001).
According to Gottman (1999) couples should learn how to calm the atmosphere, regain their composure and focus his attention again. They need to figure out how to adjust their intense and different emotions. Calming oneself and others not only paves the way for a fruitful dialogue, but also each spouse has significant contribution in emotional and physical health (Hicks et al., 2004). According to Gottman, four major negative factors (criticism, contempt, defensive behavior and lack of cooperation) disrupt marriage. For dealing with the negative aspects of marriage, he puts great emphasis on love and respect, and to increase the positive aspects, he notes factors such as showing interest, kindness, attention, gratitude, sympathy, empathy, being receptive, wit and having sharing in happiness (Gottman et al., 2002). Educational practice of Gottman contains seven effective principles to strengthen marital relationships (Kazemi et al., 2011). These seven ethical principles for success in marriage are: 1. couples should have improve their plans of affection; 2. couples should increase their love and appreciation; 3. couples should getting closer to each other instead of keeping away; 4. couples should let their spouse influence them; 5. couples should try that put themselves in place of their spouses, so they could solve resolvable problems; 6. couples should overcome persistent problems; 7. couples should be able to create a shared belief in life by help of each other (Gottman and Silver, translated by Ghorachedaghi, 2014).

If the couples adhere to these principles in marital life, their relationships most likely will be long-lasting and joyful. Results of studies on the effectiveness of psychological interventions and educations show that these interventions and education are effective on marital satisfaction (Abedi, Mosayebi and Arizi, 2013). In this regard, holding training courses of marriage relationships skills with Gottman method for stabilizing marital relationships improved relationships skills of couples, so that this improvement remained for a long time and hope to improve the relationships also increased (Westerop, 2002). The results of another study performed to prevent marital dissatisfaction and divorce based on Gottman’s theory showed that couples who participated in this program had more positive emotions, better relationships and better problem solving behaviors (Cornelius and Alessi, 2007). Also, the results of study by Johnson (2000), according to Gottman theory entitled behavioral differences on disconsolate and normal couples showed that couples who tend to focus on positive aspects of spouse and have less focus on negative aspects, have happier life, more satisfaction and more sustainable relationships. Therefore, for a happy marriage, couples need to establish an effective and efficient relationship (Karahan, 2007). The results of the other studies suggest that using couples relationship enrichment education based on Gottman theory marital satisfaction and mental health can be significantly increased (Kazemi et al., 2011; Haddadgar and Zare Bahramabadi et al., 2014; Razi, 2012) and marital stress is reduced and marital happiness increased (Sakizadeh, 2013), also emotional Intelligence, martial interactions and marriage style of couples improved (Shayegh Boroujeni, 2010).

Increased rate of divorce in recent years and discontent of couples with each other and disintegration of warm centers of many families and adverse effects of these discontents and separations on family members (Nosrati, 2011), indicate that couples need help of professionals for improving relationships and communication patterns. Given changes and growing complexity of society and development of social relationships, education of relationship skills for preparing people to deal with people and difficult situations especially shared life seems necessary. No doubt if couples have skills in relationship techniques, they can solve many of life problems and enjoy life and have more adaptability. Thus, because of the importance of the family institution and support of family against disintegration and its preserve as a cornerstone of human society and given the importance of communication patterns in marital satisfaction, and using different approaches to family therapy including relationships skills training as techniques to use right communication patterns, education of relationships improvement principles with Gottman method are used for prevention and treatment of marital disputes and decrease of discontent as conflicts, disagreements and dissatisfaction in marriage are inevitable and conflict resolution skills training and providing relationships skills and sources that help couples solve marital problems, will be clearly helpful and necessary (Razi, 2012). The difference of Gottman method with other methods is that instead of considering what factors lead to collapse of marriage, cares about what factors make a successful marriage (Kazemi et al., 2011). Given that this training method has got little attention of researchers, improvement of...
relationship between couples through Gottman is one of important issues that should be examined; because counselors and psychologists of counseling centers, family clinics can be used as an effective way to improve a couple's relationship. Therefore, this study aimed to evaluate the effectiveness of principles of improving the relationship based on Gottman method on marital satisfaction of couples in Tehran. To this end, the research hypotheses are:

1- Training the principles of improving the relationship based on Gottman method is effective on marital satisfaction.
2- Training the principles of improving the relationship based on Gottman method is effective on the components of marital satisfaction of couples.

MATERIALS AND METHODS

The research method has been quasi-experimental with pretest-posttest design and control group and it is an applied research. The study population consisted of all the couples who had referred to psychotherapy clinics in Tehran in the years 2013 and 2014 to get marital counseling. The research sample included 40 couples from those referred. Inclusion criterion was couples who had been married at least two years ago, had no children and lived in urban areas of Tehran. Sampling method was random cluster that is Tehran city was divided into four sections (North, South, West and East) was divided. Then, one part (East of Tehran) was randomly selected among four parts and next among East districts of Tehran, a district (district 8) was selected randomly. Then among all psychotherapy and family health clinics in that district, a clinic was randomly selected and among the couples referred to that clinic 40 couples were randomly selected and then randomly assigned to two experimental and control groups (each group of 20 couples). Method of the study was such that ENRICH Marital Satisfaction Scale questionnaire (1997) and Gottman scales of marital therapy (2009) were provided to the couples. In order to respect moral considerations of research, in a briefing session before distributing the questionnaires, a short description of questionnaires was provided to the couples and they were assured that this is purely a research and responses will remain confidential. Then, the intervention of relationship improvement principles training program based on Gottman method was performed for the experimental group, while the control group did not receive this intervention.

The experimental intervention was conducted over two sessions for the experimental group. In a way that every week a session was held for 5 hours and at the end of each session, after summing up the contents, a task was given to the next session. This educational intervention was conducted in a private clinic located in East Tehran and by the researcher in the first and second week of July 2014 carried out for the experimental group. At the end of the intervention program both experimental and control groups completed questionnaires again. Strategies used in each training session were derived from content of relationship improvement principles protocol based on Gottmann (2009). Description of the training protocol sessions are as following:

First session: examining ways of improving love relationship between the couples through increased understanding of self and spouse in the personality, emotional, cognitive, intellectual, interests and tastes areas; understanding his/her concerns and further increase of cognitive space of each of the spouses about each other; training effective ways to increase love, respect and positive interaction between couples, reviving positive emotions, increasing gratitude, enhancing the ability to understand the advantages and disadvantages of spouse; focusing on getting closer to each other and increasing the scale of intimacy, ways of effective listening and speaking skills and effective relationships skills and investigating the factors contributing coldness of relationship and resolving them.

Second Session: training ways to solve resolvable problems, identifying arguments start styles, training the use of compensatory measures, attention to one self’s physiology during disputes and training various methods of relaxation; training strategies to improve sexual relationships, training calming each other and the way of agreeing on unresolvable problems, training the importance of accepting influence from husbands and making spouses participate in decision-making, enabling partners to create a common concept in their martial life through creation of inner life by both couples.

In this study, two questionnaires were used to collect data:
1. Enrich Marital Satisfaction Scale (47 points form): This scale has 47 items and 12 subscales, of which two subscales emotional relationship (6 items) and quality of sexual relationships (5 items) in this study were chosen. During the implementation of this scale, the couples were asked to read the items and provide their view in a 5-point Likert scale from strongly disagree to strongly agree mark. For each item a score of one to five was assigned. Of course, scoring some items was reverse. A higher score indicated high marital satisfaction (Olsen and Olsen, 1997). This scale is normalized in Iran and significant solidarity between these scale and family satisfaction questionnaires and life satisfaction has revealed the validity of this test (Ameri et al., 2002). Reliability of that has also been reported as 0.95 by Cronbach's alpha for the overall scale (Soleimanian, 1994).

2-Martial therapy scale Gottman (2009): This scale has 68 items and 3 subscales (trust, compromise and commitment) that the dimension of trust (with 21 items) and commitment (with 20 items) have been set as a 5-point Likert scale from strongly disagree to completely agree and compromise dimension (with 27 items) as right-wrong answer. In case of trust dimension, the more is persons' agreement with the items, the less is trust rate and vice versa. But in case of compromise and commitment dimension, the more persons' agreement with items, the higher is compromise and commitment to the spouse and vice versa. This questionnaire has been standardization in Iran.

In this study, in order to ensure the validity of questionnaires the views of experts and professors of Psychology department in Islamic Azad University, Science and Research Ayatollah Amoli have been used. Thus, face and content validity of scales have been confirmed by psychology professionals. Also, the reliability of the questionnaires by Cronbach's alpha for scales of Enrich Marital Satisfaction and martial therapy of Gottman was found as 0.89 and 0.93 respectively that is acceptable. Statistical analysis of data was conducted using statistical software SPSS17 and descriptive statistics (mean and standard deviation) and inferential statistics (Covariance analysis / ANCOVA).

**FINDINGS**

In Table (1) descriptive data related to overall marital satisfaction and its subscales in both pre and post tests are presented. Results in Table 1 show that the average score of overall marital satisfaction and mean of scores on the subscales (emotional connection, quality of sexual relationships, trust, compromise and commitment), in the experimental group were higher in posttest than pre-test stage.

In order to determine the effectiveness of the principle of improving the relationships principles based on Gottman method on marital satisfaction and its subscales, analysis of covariance test was used, whose results are brought in Table 2. According to the results presented in this table there is no significant differences between marital satisfaction in the experimental and control groups in post-test stage (P>0.05), but there is significant differences in the subscales (emotional connection, the quality of sexual relationships, trust, compromise and commitment) in test and control groups in post-test stage (P ≤0.05).This means that training relationship improvement principles based on Gottman method has been able to increase subscales of marital satisfaction (emotional connection, quality of sexual relationships, trust, compromise and commitment) in couples after posttest stage but has not been effective overall marital satisfaction (Table 2).

Table 1- Comparison of mean and standard deviation in experimental and control groups in overall score of marital satisfaction and its subscales in pretest and posttest stages

<table>
<thead>
<tr>
<th>Components</th>
<th>Groups</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martial satisfaction (overall)</td>
<td>Experiment Control</td>
<td>137.075</td>
<td>19.750</td>
<td>169.625</td>
<td>14.077</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>133.750</td>
<td>10.443</td>
<td>134.575</td>
<td>8.313</td>
</tr>
<tr>
<td>Emotional connection</td>
<td>Experiment Control</td>
<td>15.125</td>
<td>3.314</td>
<td>20.575</td>
<td>2.437</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>16.225</td>
<td>3.605</td>
<td>16.475</td>
<td>3.029</td>
</tr>
<tr>
<td>Quality of sexual</td>
<td>Experiment Control</td>
<td>16.75</td>
<td>3.862</td>
<td>18.375</td>
<td>2.305</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>14.950</td>
<td>2.846</td>
<td>14.625</td>
<td>2.742</td>
</tr>
<tr>
<td>relations</td>
<td>Experiment</td>
<td>Control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>------------</td>
<td>----------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td>42.900</td>
<td>27.388</td>
<td>71.350</td>
<td>27.700</td>
<td></td>
</tr>
<tr>
<td></td>
<td>47.075</td>
<td>22.858</td>
<td>47.425</td>
<td>21.854</td>
<td></td>
</tr>
<tr>
<td>Compromise</td>
<td>59.625</td>
<td>19.392</td>
<td>86.250</td>
<td>14.577</td>
<td></td>
</tr>
<tr>
<td></td>
<td>51.925</td>
<td>22.619</td>
<td>51.500</td>
<td>22.224</td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td>56.425</td>
<td>28.541</td>
<td>84.050</td>
<td>25.497</td>
<td></td>
</tr>
<tr>
<td></td>
<td>61.375</td>
<td>20.250</td>
<td>60.500</td>
<td>19.348</td>
<td></td>
</tr>
</tbody>
</table>

Table 2- Analysis of covariance of marital satisfaction scores (overall) and its subscales in the study groups in posttest stage

<table>
<thead>
<tr>
<th>Source</th>
<th>Components</th>
<th>Sum of squares</th>
<th>Degrrees of freedom</th>
<th>Mean square</th>
<th>F</th>
<th>The significance level</th>
<th>ETA value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>Martial satisfaction (overall)</td>
<td>3506.667</td>
<td>1</td>
<td>3506</td>
<td>43.14</td>
<td>0.000</td>
<td>0.362</td>
</tr>
<tr>
<td></td>
<td>Emotional connection</td>
<td>161.016</td>
<td>1</td>
<td>161.016</td>
<td>33.89</td>
<td>0.000</td>
<td>0.308</td>
</tr>
<tr>
<td></td>
<td>Quality of sexual relations</td>
<td>229.365</td>
<td>1</td>
<td>229.365</td>
<td>64.89</td>
<td>0.000</td>
<td>0.461</td>
</tr>
<tr>
<td></td>
<td>Trust</td>
<td>15206.241</td>
<td>1</td>
<td>15206.241</td>
<td>37.82</td>
<td>0.000</td>
<td>0.332</td>
</tr>
<tr>
<td>Compromise</td>
<td></td>
<td>12287.975</td>
<td>1</td>
<td>12287.975</td>
<td>118.1</td>
<td>0.000</td>
<td>0.609</td>
</tr>
<tr>
<td>Commitment</td>
<td></td>
<td>22049.417</td>
<td>1</td>
<td>22049.417</td>
<td>93.73</td>
<td>0.000</td>
<td>0.552</td>
</tr>
<tr>
<td>Group membership</td>
<td>Marital satisfaction (overall )</td>
<td>117.218</td>
<td>1</td>
<td>117.218</td>
<td>1.442</td>
<td>0.000</td>
<td>0.019</td>
</tr>
<tr>
<td></td>
<td>Emotional connection</td>
<td>50.855</td>
<td>1</td>
<td>50.855</td>
<td>10.70</td>
<td>0.000</td>
<td>0.123</td>
</tr>
<tr>
<td></td>
<td>Quality of sexual relations</td>
<td>36.913</td>
<td>1</td>
<td>36.913</td>
<td>10.44</td>
<td>0.000</td>
<td>0.121</td>
</tr>
<tr>
<td></td>
<td>Trust</td>
<td>5479.749</td>
<td>1</td>
<td>5479.749</td>
<td>13.6</td>
<td>0.000</td>
<td>0.152</td>
</tr>
<tr>
<td></td>
<td>Compromise</td>
<td>4605.556</td>
<td>1</td>
<td>4605.556</td>
<td>44.29</td>
<td>0.000</td>
<td>0.368</td>
</tr>
<tr>
<td></td>
<td>Commitment</td>
<td>195.079</td>
<td>1</td>
<td>195.079</td>
<td>8.290</td>
<td>0.000</td>
<td>0.098</td>
</tr>
</tbody>
</table>

Discussion and Conclusion

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The results of the present study that investigated the effectiveness of training relationship improvement principles based on Gottman method on marital satisfaction of couples, showed that training relationship improvement principles based on Gottman has not been effective in marital satisfaction but affects its components (emotional connection, quality of sexual relationships, trust, compromise and commitment); so that emotional connection, quality of sexual relationships, trust, compromise and commitment of couples in the test group have increased after relationship improvement principles based on Gottman method that in line with these result, some studies can be noted in which training relationships skills of marriage based on Gottman method is considered effective in improving communication skills and marital interaction (Kazemi et al., 2011; Haddadgar and Zare Bahramabady, 2014; Razi, 2012; Sakizadeh, 2013; Shayegh Boroujeni, 2010; Johnson, 2000; Vestrop, 2002; Cornelius and Elsie, 2007), because the marital relationships is an essential component in understanding marital performance (Ruali, 2001) and can be a strong predictor of marital quality (Gottman, 1999) and if the spouses fail to acquire relationships skills properly, verbal and behavioral conflicts appear and persistence of marital conflicts causes dissociation marriage.

It is obvious that healthy relationships based on compatibility and understanding among family members, especially between husband and wife is the survival factor of durability and growth of life. In contrast, ineffective relationships weaken marriage bond and cause incidence of distrust and hatred. Therefore, as the results of various studies show, by training relationships skills, the process of solving marital conflicts can be facilitated (Ebrahimi and Janbozorgi, 2008; Nazari and Navabinezhad, 2005; Amato, 2005) and the couple's emotional relationships and commitment to each other can be increased (Aslani, 2004; McCloy et al., 1998; Santayana, 2007) and by increasing the mutual understanding of each other and creating love, commitment and integrity in each of the spouses towards the other, feeling of hope and happiness in marital life can be restored to them (Robinson and Blanton, 1993; Nickol, 2006).

Training the principles of relationship improvement based on Gutman method helps couples who concerned with the turmoil in their marital relationship by combining principles and foundations of different treatment theories. This training program is designed to enhance and enrich family relations, especially relations between spouses to help couples identify the cause of problems and strengthen their marital relationship by learning the skills that help them solve their problems, (Nazari and Navabinezhad, 2005). In this program, instead of focus on the factors that cause the collapse of marriage (such as criticism, contempt, defensive behavior and lack of cooperation), factors are emphasize that cause success of marriage (Kazemi et al., 2011). In other words, in this program techniques are taught to couples through which they can recognize their sometimes different emotions, love each other, respect each other, and share their feelings easily, participate in decision-making, understand their spouse's weak and strong points, improve their sexual relations, calm each other in conflicts and by understanding each other's concerns and using effective techniques of listening and engaging in dialogue, identify the causative agents of coldness in marital relation and solve them together. Marital come to know and act together to solve them.

Among possible reasons for effectiveness of training improvement relationship principles based on Gottman method on components of emotional connection, quality of sexual relationships, trust, compromise and commitment, it can be said that with training relationship improvement principles in the experimental group, couples learn right ways of replacing behaviors and new efficient thoughts instead of previous negative ineffective thoughts and behaviors about their spouses and learn to identify factors affecting success of their common life and strengthen them. Also, during training sessions, these couples learn effective communication skills, and this can lead to a positive attitude to themselves and their spouse, better relationship with their partner, creating love and intimacy in life and creation of shared concept in marital life. Also, among possible reasons for the lack of effectiveness of training relationship improvement based on Gottman method on marital satisfaction (overall), it can be said that marital satisfaction other than including elements such as emotional connection, quality of sexual relationships, trust, compromise and commitment, could also include other aspects like spending leisure time, religious beliefs, personality issues, financial issues, parenting, relationship with original family and friends, spouse roles and conflict resolution. In other
words, marital satisfaction is a construct that cover different factors and all of them should be supplied for achieving optimum satisfaction. Since many of these effective factors in marital satisfaction had not been considered in this study and in training sessions components involved in marital relations have been emphasized more, and just some strategies have been taught to couples for improving them, so although training relationship improvement principles based on Gottman method increased marital satisfaction (overall), but this increase has not been significant.

In sessions of training relationship improvement principles based on Gottman method, this vision was given to the couples that they have negative and false thoughts about the state of their marriage that cause a negative bias towards their wife. So, they were instructed to focus on the factors on positive factors affecting the success of marital life rather than on destructive factors. This program, by increasing exchange of positive behavior, boosting companionship and sensational and emotional fusion, behavior control and function of couples will improve the quality of couples' relationships and intimacy and affection between them. As a result, when couples feel that experience deep emotional, logical, friendly and intimate relationships, they continue their shared life with optimism and happiness. In general, the results of this study showed that training relationship improvement principles based on Gottman Method has been effective in increasing relationships skills of couples (emotional connection, quality of sexual relations, trust, compromise and commitment).

Helping couples who are experiencing marital turmoil, using relationship improvement principles based on Gottman method in family counseling centers can be an effective step in enhancing communication skills of couples and reduce couples' marital conflicts and its consequences such as divorce. The results of this research encourages professionals to attach more importance to the psychological aspects of marital life; resulting in better and faster improvement of marital relations. On limitation of this study is that this is performed on couples who referred to one of the family counseling centers in Tehran with last at least two years of marriage and had no children and the results may not be generalizable to all couples referring to counseling centers in other cities of the country or couples who have children. Therefore, this study suggests that future studies by taking more samples and conducting a longitudinal study in society and other statistical sample can confirm the results of this study.

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PRIORITIZING THE MOST IMPORTANT FACTORS IN THE DESIGN OF SPATIAL STRUCTURE OF SCHOOLS BASED ON LEED STANDARDS

Hamid Fadakari
Department of Architecture, Science and Research Branch, Islamic Azad University, Zahedan, Iran
Maziyar.Fadakar@yahoo.com

Alireza Bavandian
Department of Art, University of Neyshabur, Neyshabur, Iran
Bavandian@ferdowsi.um.ac.ir

ABSTRACT
In order to achieve spatial configuration of schools focusing on sustainability based on LEED certification, this paper attempted to identify criteria and indicators of this standard for measuring sustainability and then, it prioritized them using Analytic Hierarchy Process (AHP). In this paper, to explain priorities of the most important factors in design of schools based on LEED standards, main criteria for decision-making and Analytic Hierarchy Process included five items of site sustainability, efficiency of water, energy and atmosphere, materials and resources, quality of indoor air, and innovation and creativity in design with spatial fluidity and fluency in regard with planning and design guidelines set by LEED. The results showed that main five identified criteria can be listed in order of priority as efficiency of water, energy and atmosphere, materials and resources, site sustainability, innovation and creativity in design with spatial fluidity and fluency, and quality of indoor air, respectively.

Keywords: prioritization, spatial configuration design, schools, LEED standards, Analytic Hierarchy Process (AHP)

INTRODUCTION
Population growth and consequently exceeding demand for energy consumption, resource depletion of fossil fuels, increased air pollution caused by burning fossil fuels, destruction of the ozone layer, intensifying phenomenon of global warming and its side effects such as melting glaciers, floods, landslides, etc. are factors which propel modern societies to support clean, sustainable and renewable energy (Douglas and Gordon, 2010). Hence, American countries and then European countries included creation of eco-friendly environments as their administrative plans in their tremendous governmental programs in order to protect urban environment and first established this strategy at universities (Olomolaiye et al, 2007). Except activities associated with constructing multi-purposes public green spaces, no exclusive activity have been conducted yet to reduce carbon emissions in Iran (Siadat, 2013). However, given the large potential available in some Iranian cities, necessity of creating eco-friendly environments becomes obvious in those cities. In recent years, many schools and universities and other organizations have been done numerous activities in this regard but unfortunately, they could play an important role in solving environmental problems and air pollution (Tahersima et al, 2015). The community can be aware of desirability and economic and environmental value of energy, referred as harmless and quiet energy, through architecture; and teaching and learning these values may protect society from mere consumerism (Beltran et al, 2009).

The school is one of the first social environments where human enters and forms its personality. Impact of educational spaces on quality of training and behavior of students and teachers results in a close
relationship between architecture and education (Behrouzfar, 2002). In current situation, design of schools is only concentrated on conventional and mechanical function of education and school is noticed as an educational institution. But in desirable conditions, ecological principles would be more considerable than other dimensions (Ghaffari and Hosseini, 2008). Since schools are public buildings with high energy consumption, proposing solutions for their proper designs based on targets of sustainable development may prevent from energy loss in such places and indirectly cause awareness of importance of energy optimization (Safari and Malek Mahmoodi, 2011).

Generally, due to lack of culture of using energy properly, school buildings like other ones are not designed based on principles of energy saving and environmental protection in contemporary architecture of our country (Singeri et al, 2013); especially while providing natural light and air quality can cause profound and lasting effects on qualitative improvement of students’ acquisition - as well as learning- because psychological security of students leads to numerous educational development (Olson and Stephen, 2003).

Given clear objectives in order to achieve self-sufficiency in energy production, recycling materials and utilization of renewable energy, green Schools (eco schools) can be generalized as a model to other parts of community such as governmental and non-governmental organizations, hospitals, etc. that will eventually have a positive effect on city clearing (Said, 2007). According to the country’s rich biological resources and state protective policies on eco-friendly plans to reduce environmental pollution and optimize energy consumption, and Iran’s potential for skilled labor and on the other hand, natural and ecological resource limitation, it seems that implementation of research, applied and developmental studies on spread of eco-friendly technologies and creating eco (green) schools and educational spaces and communities to address environmental and ecological issues consistent with Iran’s 20-year prospect is more important (Saber Davatgaran, 2013).

This study aims to achieve principles of school design in accordance with sustainability based on LEED standards as a basis for measuring building sustainability. So the items necessary for receiving this certification such as energy savings, water efficiency and energy efficiency, effectiveness of using materials, site sustainability, use of solar and renewable energies in design and improving environmental quality of schools, etc. are studied and then criteria prioritization and sub-criteria identification are done using analytical hierarchy Process (AHP).

**Research methodology**
A survey research method was used in this study. Initially, main arguments of planning and design of spatial configuration of schools were investigated based on LEED standards and the most significant criteria were identified. Then, simulation was carried out to prioritize the most important criteria by Analytic Hierarchy Process (AHP) and comparative analysis; so that priority of factors in school design was explained. Hence, influential variables in decision-making were obtained after selecting the sample and collecting data. Based on relationship between the variables, hypothetical model was then proposed and evaluated by AHP. After verifying proposed model according to the average made by scoring criteria, five experts - architects and psychologists - explained priorities of identified factors through paired comparison technique. Finally, the problem was analyzed to prioritize criteria after making paired comparisons of criteria and calculating rate of incompatibility.

**Analytic Hierarchy Process (AHP)**
AHP was first developed by Saaty. This method is based on a hierarchical structure and helps analyst to handle critical aspects of the issue within a hierarchical structure like a family tree. This method reduces complex decisions into a number of simple comparisons and ratings; and extracting results not only helps the analyst to make the best decision, but also provides a clear rationale to choose. Analytic hierarchy
process aims to identify preferred options and also determine rank of alternatives by taking into account all decision criteria (Saaty, 2000). Analytic hierarchy process is an effective and operational approach which is able to consider unstructured and complex decisions. This method was chosen due to characteristics of the issue as well as advantages and disadvantages of other methods of decision-making. AHP typically includes following six steps (Lee et al, 2008):

1. Defining the problem non-structurally and expressing objectives and expected results clearly
2. Changing a complex problem into decision-making elements (expressing details of criteria and alternatives).
3. Using paired comparisons between decision-making elements in order to create comparison matrices
4. Utilizing special vector method to estimate relative weights of decision-making elements
5. Calculating rate of incompatibility of matrices to ensure compatibility of decision-makers’ judgments
6. Integrating weighted elements to obtain final ranking of alternatives.

Priority of elements is determined in each level after creating a hierarchical structure (the element refers to each member of the hierarchy). Preferences are quantified through a 9-point scale.

### Table 1. Scale of preferences between two elements for pairwise comparisons (Saaty, 2000)

<table>
<thead>
<tr>
<th>Preference weights / importance level</th>
<th>Definition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Equal preference</td>
<td>Refers to a situation where two activities provide the same contributions into an objective.</td>
</tr>
<tr>
<td>3</td>
<td>Moderate preference</td>
<td>Refers to a situation where experiences and judgments tend to moderately prefer one activity over other activities.</td>
</tr>
<tr>
<td>5</td>
<td>High preference</td>
<td>Refers to a situation where experiences and judgments tend to highly / particularly prefer one activity over other activities.</td>
</tr>
<tr>
<td>7</td>
<td>Very high preference</td>
<td>Refers to a situation where an activity is very highly preferred over other activities.</td>
</tr>
<tr>
<td>9</td>
<td>Extreme preference</td>
<td>Refers to a situation where an activity is extremely preferred over other activities.</td>
</tr>
<tr>
<td>2,4,6,8</td>
<td>Transitional preference</td>
<td>Refers to preferences falling somewhere within the range limited by above extremes.</td>
</tr>
<tr>
<td>Inverse</td>
<td>The inverse of each case refers to inverse comparisons.</td>
<td></td>
</tr>
</tbody>
</table>

Pair wise comparisons are based on the extent to which an element A is more important than another element B. In analytic hierarchy process (AHP), elements at each level are compared, in a pair wise manner, to the corresponding elements at a higher level; according to the pairwise comparison, they have their weights calculated (typically referred to as relative weights). Afterwards, combining the relative weights, one can end up establishing ultimate weight of each alternative (absolute weight). The ultimate weight is obtained by sum of importance factor of the criteria multiplied by the alternatives’ weights. When the obtained matrix is inconsistent, weight calculation would not be an easy task to perform, requiring such methods as least squares, logarithmic least squares, eigenvector method as well as approximating approaches (Asgharpoor, 2008). In the present research, eigenvector method is followed to achieve such a purpose.

Pair wise comparisons include study of a matrix of relative ranks at each hierarchical level. Number of the matrixes depends on the number of elements at each level. Moreover, rank of the matrix at each level relates to the number of elements at the lower level. Once finished with forming all of the matrixes and performing pairwise comparisons, eigenvectors or relative weights (relative importance of the elements),
e.g. ultimate weights, and maximum eigenvalue ($\lambda_{\text{max}}$) were calculated for each matrix (Expert Choice, 2000).

One of the important advantages of AHP is its ability to measure and control consistency of each matrix and decision. Acceptable range of inconsistency within each system depends on decision maker. However, generally speaking, Saaty suggests that, if incorporated inconsistency into a decision exceeds 0.1, the decision maker is better to revise his/her judgments (Hajkowicz et al., 2000). Inconsistency index (II) is defined as follows:

$$I.I. = \frac{\lambda_{\text{max}} - n}{n - 1}$$

where $\lambda_{\text{max}}$ represents maximum eigenvector of the matrix and $n$ denotes the matrix length. For each matrix, the result of II divided by the II of a random matrix (IIR) of the same dimension represents a proper measure of inconsistency referred to as inconsistency rate (IR). If the IR is smaller than or equal to 0.1, the system consistency is recognized as acceptable, otherwise, one should revise the adjustment (Asgharpoor, 2008). It is worth noting that, IIR refers to the inconsistency index of the random matrix which can be obtained by calculating values of inconsistency index for matrixes whose elements’ values are fully randomly assigned. The value of this index for a matrix of $n$ dimension is given in Table 2.

### Table 2. Inconsistency index of random matrixes (Saaty, 2000).

<table>
<thead>
<tr>
<th>$N$</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIR</td>
<td>0</td>
<td>0</td>
<td>0.58</td>
<td>0.9</td>
<td>1.12</td>
<td>1.24</td>
<td>1.32</td>
<td>1.41</td>
<td>1.45</td>
<td>1.45</td>
</tr>
</tbody>
</table>

### Findings and results

#### Effective variables of research

Various researches on the physical effect of the design of spatial structure of schools according to LEED standard show that, there are some factors (independently) largely contributing into the issue, such as planning and design topics according to LEED, as follows (LEED, 2011):

- Site sustainability,
- Water, energy and atmosphere consumption efficiency,
- Materials and resources,
- Interior air quality, and
- Innovation and creativity in designing with spatial fluidity and fluency.

In the present paper, the above factors are considered as the primary criteria for prioritizing the effective contributors into design of spatial structure of schools according to LEED standard, and once finished with determining their reliability coefficient based on the architects and designers’ opinions, corresponding indexes to the criteria were established as presented in the following table.

### Table 3. Factors and sub-factors affecting performance of open and semi-open spaces in terms of teach ability of students in elementary schools.

<table>
<thead>
<tr>
<th>No.</th>
<th>Criteria</th>
<th>Reliability coefficient</th>
<th>Count</th>
<th>Indexes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Site sustainability (C1)</td>
<td>0.794</td>
<td></td>
<td>Prevention from pollution generation through construction (M1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>Proper site selection (M2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>Realizing optimum density in developed areas and adjacency to the network of urban services (M3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>Restoration of damaged sites and environmental pollutants (M4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>Maximization of open space and</td>
</tr>
<tr>
<td></td>
<td>Factor</td>
<td>Score</td>
<td>Sub-factors</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>------------------------------------------------------------------------</td>
<td>-------</td>
<td>----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Water, energy, and atmosphere consumption efficiency (C2)</td>
<td>0.899</td>
<td>1.  Ensuring proper operation of buildings’ energy systems (M6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.  Optimization of minimum energy consumption within building (M7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3.  Prevention from ozone depletion by cooling facilities (M8)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4.  Reduction of water consumption and saving on consumption (M9)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5.  Wastewater recycling using creative technologies (M10)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6.  On-site use of renewable resources and green energies (M11)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Materials and resources (C3)</td>
<td>0.834</td>
<td>1.  Storing and collecting materials for recycling format (M12)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.  Reuse of the building while preserving walls, floors, and non-structural elements (M13)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3.  Management of resulting wastes from construction (M14)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4.  Use of local and vernacular materials and products of high renewal rates (M15)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5.  Reuse of used and recycled materials and products (M16)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Interior air quality (C4)</td>
<td>0.910</td>
<td>1.  Obtaining minimum desired air quality within building (M17)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.  Increasing air/conditioning systems (M18)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3.  Use of materials of low pollutant content as glue and gaskets, dyes and coverage, flooring and woodenwares (M19)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4.  Controlling of chemical and biological pollutants and dangerous particles within construction’s interior space (M20)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Innovation and creativity in designing with spatial fluidity and fluency (C5)</td>
<td>0.832</td>
<td>1.  Designing and audit of thermal comfort systems (M21)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.  Controllability of A/C, lighting, and thermal (M22)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3.  Light provision and natural perspective (N23)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4.  Balanced distribution of spaces and continuation of the space fluidity with designing according to LEED (M24)</td>
<td></td>
</tr>
</tbody>
</table>

**Research model expression**

According to previous discussions, the present research is indicative of a relation among five factors affecting the design of spatial structure of schools: (1) site sustainability, (2) water, energy, and atmosphere consumption efficiency, (3) materials and resources, (4) interior air quality, and (5) innovation and creativity in designing with spatial fluidity and fluency; the factors are related to planning and designing topics according to LEED standard. Considering these criteria when designing modern buildings is crucial for creating sustainable and healthy learning environments.
schools of today, one can largely contribute into enhanced teachability of students. In order to determine priority of each criterion and recognized index, the formed AHP structure in Figure 1 is presented.

Figure 1. Structure of hierarchical tree for the proposed model

Table 4. Weight of criteria and indices for determining priority of effective factors in design of spatial structure of schools based on LEED

<table>
<thead>
<tr>
<th>Weight of indices</th>
<th>Indices</th>
<th>Weight of criteria</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.201</td>
<td>Right selection of the site (M1)</td>
<td></td>
<td>Site sustainability (C1)</td>
</tr>
<tr>
<td>0.281</td>
<td>Reconstruction of damaged sites and environmental pollutants (M2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.101</td>
<td>Access to optimal congestion in constructed environments and neighboring urban services (M3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.251</td>
<td>Preventing pollution during construction (M4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.168</td>
<td>Maximizing open spaces and environmental access (M5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.087</td>
<td>Recycling of wastewater using creative technologies (M6)</td>
<td></td>
<td>Efficient consumption of water, energy and atmosphere (C2)</td>
</tr>
<tr>
<td>0.092</td>
<td>Ensuring accurate energy systems performance in buildings (M7)</td>
<td>0.229</td>
<td></td>
</tr>
<tr>
<td>0.290</td>
<td>Utilizing renewable energy sources and green energies at the site (M8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.214</td>
<td>Optimizing minimum energy consumption in buildings (M9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.152</td>
<td>Reduced water consumption and saving in consumption (M10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.165</td>
<td>Prevention of Ozone layer depletion through cooling equipment (M11)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub criteria</td>
<td>C1</td>
<td>C2</td>
<td>C3</td>
</tr>
<tr>
<td>--------------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>M1</td>
<td>0.161</td>
<td>0.216</td>
<td>0.186</td>
</tr>
<tr>
<td>M2</td>
<td>0.189</td>
<td>0.219</td>
<td>0.206</td>
</tr>
<tr>
<td>M3</td>
<td>0.225</td>
<td>0.259</td>
<td>0.149</td>
</tr>
<tr>
<td>M4</td>
<td>0.186</td>
<td>0.207</td>
<td>0.207</td>
</tr>
<tr>
<td>M5</td>
<td>0.208</td>
<td>0.240</td>
<td>0.326</td>
</tr>
<tr>
<td>M6</td>
<td>0.156</td>
<td>0.242</td>
<td>0.183</td>
</tr>
<tr>
<td>M7</td>
<td>0.178</td>
<td>0.226</td>
<td>0.192</td>
</tr>
<tr>
<td>M8</td>
<td>0.193</td>
<td>0.215</td>
<td>0.200</td>
</tr>
<tr>
<td>M9</td>
<td>0.192</td>
<td>0.226</td>
<td>0.199</td>
</tr>
<tr>
<td>M10</td>
<td>0.172</td>
<td>0.275</td>
<td>0.225</td>
</tr>
<tr>
<td>M11</td>
<td>0.208</td>
<td>0.234</td>
<td>0.222</td>
</tr>
<tr>
<td>M12</td>
<td>0.204</td>
<td>0.214</td>
<td>0.250</td>
</tr>
<tr>
<td>M13</td>
<td>0.162</td>
<td>0.197</td>
<td>0.251</td>
</tr>
<tr>
<td>M14</td>
<td>0.174</td>
<td>0.229</td>
<td>0.265</td>
</tr>
<tr>
<td>M15</td>
<td>0.244</td>
<td>0.260</td>
<td>0.271</td>
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<tr>
<td>M16</td>
<td>0.205</td>
<td>0.205</td>
<td>0.235</td>
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<tr>
<td>M17</td>
<td>0.229</td>
<td>0.223</td>
<td>0.171</td>
</tr>
<tr>
<td>M18</td>
<td>0.196</td>
<td>0.200</td>
<td>0.189</td>
</tr>
<tr>
<td>M19</td>
<td>0.272</td>
<td>0.223</td>
<td>0.238</td>
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<tr>
<td>M20</td>
<td>0.151</td>
<td>0.25</td>
<td>0.232</td>
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<tr>
<td>M21</td>
<td>0.162</td>
<td>0.216</td>
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<tr>
<td>M22</td>
<td>0.171</td>
<td>0.196</td>
<td>0.219</td>
</tr>
<tr>
<td>M23</td>
<td>0.165</td>
<td>0.150</td>
<td>0.222</td>
</tr>
<tr>
<td>M24</td>
<td>0.146</td>
<td>0.225</td>
<td>0.212</td>
</tr>
</tbody>
</table>

Table 5. Weight of indices in comparison to each other with respect to the overall goal i.e. design of spatial structure of the schools based on LEED.
Prioritizing different criteria for spatial design of schools based on LEED with respect to 5 aforementioned main criteria is given in Fig.2. The results of pair-wise comparisons made between five main identified criteria include; criteria for efficiency in water, energy and atmosphere, material and resources, site sustainability, innovation in design with spatial fluidity and finally air quality of indoor space, which are of greater priority.

In addition, in Figs. 3-7, the results of pair-wise comparisons made between identified indices for 5 main criteria and their prioritizing are presented. The obtained results show that for the 'site sustainability' criterion, the index of 'reconstruction of damaged sites and environmental pollutants', for the 'water, energy and atmosphere efficiency' criterion the index of 'utilizing renewable energy sources and green energies at the site', For the 'materials and resources' criterion , the index of 'management of wastes due to construction activity', for the 'indoor space air quality' the index of 'controlling chemical and biological pollutants in building's indoor space' and finally for the 'innovation in design with spatial fluidity' criterion the index of 'Balanced distribution of space and continuation of space fluidity concept in accordance with LEED' are of higher importance in design of schools' spaces based on LEED standard.
CONCLUSION

School is among the first social environments than man enters in and his character is formed within it. The effect of educational space on education quality and behavior of the students and teachers, have produced a close relationship between architecture and education. At the present situation, the main concern in design of schools is the conventional and mechanical functionality of education and the schools are seen as similar to the educational services institutions. But with desired situation, environmental principles are of higher importance with respect to other dimensions and aspects. As schools are among public buildings with higher rates of energy consumption, presenting solutions for their right and accurate design to achieve the goals of sustainable development could largely prevent energy losses in this kind of places. For this purpose in the present article, to attain principles of spatial structure design of schools with the principality of sustainability based on LEED standard, the main criteria and indices of this standard were identified to measure the sustainability and then utilizing the Analytic Hierarchal Process (AHP) method they were prioritized.

Therefore, in this article for prioritizing the main effective factors in design of schools according to LEED standard, the main criteria of decision making and hierarchal structure of the research including 5 criteria: (1) site sustainability, (2) efficiency in water, energy and atmosphere consumption, (3) materials and resources, (4) indoor space air quality, (5) Innovation in design with spatial fluidity were established based on the topics of planning and design in LEED standard, were determined. The results of research showed that pair-wise comparisons between the five main identified criteria , which are: 'efficiency in water, energy and atmosphere consumption', 'material and resources', 'site sustainability',' innovation in design with spatial fluidity' and finally 'indoor space air quality' are of higher priority, respectively.

In addition, prioritizing of all indices in comparison with each other and with respect to the overall goal,i.e. design of spatial structure of schools based on LEED standard showed that for the 'site sustainability' criterion, the index of 'reconstruction of damaged sites and environmental pollutants', for the 'water, energy and atmosphere efficiency' criterion the index of 'utilizing renewable energy sources and green energies at the site', for the 'materials and resources' criterion , the index of 'management of wastes due to construction activity' , for the 'indoor space air quality' the index of 'controlling chemical and biological pollutants in buildings' indoor space' and finally for the ' innovation in design with spatial fluidity' criterion the index of ' Balanced distribution of space and continuation of space fluidity concept in accordance with LEED' are of higher importance in design of schools' spaces based on LEED standard.

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THE EVOLUTION OF FORMALISM IN PAINTINGS OF THE 18TH CENTURY TO 20 IN EUROPE, AND ITS IMPACT ON THE ARCHITECTURE IN THE EARLY 20TH CENTURY

Aliakbar Akbari
Department of Architecture and Urbanism, Qazvin Branch, Islamic Azad University, Qazvin, Iran

Amir Haghjou
Corresponding Author, Department of Art and Architecture, Shabestar Branch, Islamic Azad University, Shabestar, Iran

Sima Ebrahimi
Department of Architecture and Urbanism, Qazvin Branch, Islamic Azad University, Qazvin, Iran

ABSTRACT
Painting was not copied from natural elements, and the painter brought his reading of nature on his canvas through his inner feelings. Abstract art, which was quite formalistic manner, was at a mean for achieving this artist’s desire. Abstract art in paintings has begun from expressionistic tendencies of the 18th century in Europe, William Turner is considered as the initiator of this movement, his recall from nature was beyond the mere illustration. In the following of this abstractionism path in painting, Impressionism and Cubism can be noted and Mondrian can be named, as the accomplisher of this movement. Mondrian is the creator of Neoplastism and was effective in the De Stijl movement. The main objective of this study is to evaluate the evolution of formalism in Europe 18 to 20 century painting. The most important question of this research is that, what is the impact of the formalism process in painting on distinguished works of modern architecture in the early 20th century. To answer this question, theoretical framework of the research was based on a separate survey each painter in his radical abstraction moving, and his effect on De Stijl movement, and the test was the result of the study in case samples of modern architecture's index. The research method was descriptive-analytical and historical-interpretation and statistical population was 3 works from modern style architecture. The research results can be mentioned to De Stijl movement influence, as the main axis of abstract art in architecture, from Mondrian and former abstract painters and see the result of this influence in modern architecture.

Keywords: abstract-oriented, impressionism - Cubism - De Stijl - form oriented

INTRODUCTION
Abstract art, with all various aims and loyalty to the state of human nature, is a mean to express the new views of the artist. The art, by providing new means of expression, enables the free mind of the painter, to reset the visual concept, and achieving a new order of reality. Painter, to explore his intricacies of the unconscious, searches for the hidden soul of the objects and the truth hidden from their appearance, and by reaching a pure geometric form, expresses the internal and purest concepts. From the perspective of an abstract painter, forms that are in any combination are the simplest shapes in reduction of visual fields. Because any form, is much easier and more organized, and easier to see and understand, in this way, he finds the pure geometry value in the abstract image.
Artistic developments of the eighteenth century to the twenty in Europe are affected by impartial, objective and rational, classical-oriented attitude of contrast and realists, on the one hand, and emotional, subjective and irrational attitude of romanticism and Symbolist, on the other. This opposition is also clearly evident in the early modern art: Manet, Degas, Monet, Seurat Vszan are representatives of the first attitude and Van Gogh, Gauguin, Munch and Ansouri are representative of the second approach. But, while artists of the nineteenth century, generally, tend to polarization of this contrast, the modernist artists seek to combine the two approaches and are working to give both issues - the real, true and correct on the one hand, and the essence and the true meaning of the universe on the other hand - a unique and the same answer. This effort is concerned the new paradigm: the belief in the inherent law and the fundamental unity of all existence require the development of an inclusive Henry's law, which provide the sensual and the spiritual unity, the real and the ideal, in a homogeneous form (Bekola, 2008: 17).

The source of modern art can be studied from different angles. However, it seems the development of abstract art in the early twentieth century is one of the most important origins. Undoubtedly, the abstract art is the most important achievement of modern art. The significance of this success is not certainly less than the Industrial Revolution. The abstract art promises clearly the dawn of a new era in the realm of aesthetics (Bani Masoud, 2010: 267).

Abstract art is actually quite formalistic manner that emerged from within the expressionist tendencies, and became the most pure modernist (ibid.).

The most important issue of this research is the effect of abstract art evolution in painting and the move to an entirely formalistic manner, and using this method in the architectural works in modern style. The evolution begins in the painting of William Turner, nature-oriented painter of the eighteenth century and continues to Mondrian of the twentieth century.

This research necessity was specifying the form of abstract art as the source of modern art in painters’ works and showing abstract painters’ trends in early twentieth-century toward the occult sciences.

RESEARCH BACKGROUND

Previous research related to this topic can be divided into two categories:

1- The books that are related to the spiritual evolution of abstract art in paintings from 18-20 century Europe:

- Books and encyclopedias about art history, books, such as, art history of Ernst Gambryj, Austria historian as well as art encyclopedia (painting, sculpture and graphic art) and Royin Pakbaz work.

- Resources that are in the case of modernist art, such as the history of modern art: painting, sculpture and architecture in the twentieth century for Arnason and modernism art of Sandra Bokula.

2. The books that are related to the analysis of modern architecture special works:

- The book “twenty buildings that every architect should know” by Simon Unwin, who has reviewed and analyzed the twenty outstanding works of architectures in it.

THEORETICAL FRAMEWORK OF ARTICLE:

Traces of the influence of abstract paintings of Mondrian and Malevich or Vendsburg in the works of modern architecture can be observed in other studies or books related to the history of modern architecture. However, having this influence been without any introduction or other related topics? The theoretical framework of this paper was started with the fundamental question for the researchers. A transformation happened following the Renaissance painting, by William Turner and this promise was a new movement in the abstract painting. Formalism movement process in the works of these painters is a part of the theoretical structure of this study, which continues with examining the painter and his style in painting, and the completing of this move was desired to Mondrian. Mondrian influence, as a supplement to the path of religious- mystical movements of his career and the condition he has lived in it, has been brought in the theoretical structure of this paper. This formalism movement to the architecture was done by the movement of De Stijl and Mondrian. In the final part of the research, we have reviewed the desired formalism in special works of modern architecture of the 20th century and conclusions about the effectiveness of these works have been extracted with formalism movement in paintings’ works.

Mondrian as the emergence of form accomplisher and pure color on canvas painting that could extend this artistic approach in painting to architecture. In addition, the result of it was the works like Schroeder house that was completely surrounded in the form and structure of the desired artistic movement. Other important works of modern architecture were affected by the formalism of paintings from the 18th century to 20 Europe, to the Barcelona Pavilion and Fallingwater.
ABSTRACTIONISM AND FORMALISM:
Abstractionism is an embodying art with the fundamental and general characteristics of organisms and objects and ignoring visual effects and specific details of each of them. Abstractionism is a modern manner that has learned the art world from 1910 to the present, and its aim is to create works of imitation representation of the evident world. This movement (also called the art of representation, and in the advanced process it is also known as a non-object art) is based on the use of art elements of line, surface, volume, color, space, texture, to create a work that is a new visual experience in terms of each observer (Saba, 2005: 232).

Formalism is an action or doctrine that is emphasized in the form or formal structure. The term was common from 1920 with the group research from Russian writers, including Victor Shelosky, about the characteristics of the stylistic and formal structure of literary works. They were called formalist, because simply they have studied the form. Russian formalists have considered the literature-and in particular poem as special language and contrary to the common language and have limited the literary criticism in the same literary language framework. According to them, any attempt to analyze the content of literary work will force the critic into areas of non-literary, for example, psychology or sociology (Pakbaz, 1999: 343).

In the visual arts, unlike literature, the term does not have a principle-based application and so sometimes removing the subject, any misrepresentation, or abstract in art is considered careless of "formalism". In this regard, the following definition can be proposed: formalism is the use of contracts that only clear a formal look of a work (while these contracts were originally created to provide certain content). This special emphasis on form-no matter the content- can be found both in the abstract works and naturalism works (ibid: 343).
18TH-20TH CENTURY PAINTERS IN EUROPE
TURNER: A REPRESENTATION OF NATURE, BEYOND MERE ILLUSTRATION

William Turner (English painter, 1775-1851), because of his innovations, is considered as one of the most important European scenic. In addition to the sea and scenic natural landscapes, he has also painted historical themes, and in these curtains, his romantic tendency becomes more obvious (Pakbaz, 1999: 161).

The last stage of his artistic development (1830-1848) was the follow-up searches in the world of light and color. In the works of this period, the subject became unimportant against color composition. He was seeking a visual equivalent for non-visual set of emotions. Storms rotate of the brush, bright colors and abstract shapes reveal the poetic theme of his paintings, and so, the descriptive allusions reduce to the secondary factors (eg blizzard 1842). His semi-abstract works are called "painted fumes". Turner's attention to the effects of light, later affects Impressionist painters-especially Monet and Pissarro that saw his works in 1870 in London. Perhaps, it can be said that, his work in terms of passion, heat and technical freedom exceed from impressionism to be related to expressionism in the twentieth century (ibid: 163).

Turner's passionate and romantic representations of nature can be considered a form of escape from reality. However, purely painterly behavior, the use of rhythm, form, light and color to emotions in nature and the forces give improvisation gives special impromptu that is definitely beyond mere illustration. Turner's paintings do not carry the illusion of an accident; they have been an accident. His paintings give idea visualization that does not announce it. In this respect, Turner goes beyond the boundaries of the idealism of his contemporaries, like Delacroix, and will be placed in the row of the great pioneers of modernism (Bekola, 1998: 78).

CLAUDE MONET, THE IMPRESSIONIST AND LIGHT CONCERNED

The term Impressionism was a Louis Laurie achievement, an unkind critic of the journal "commotion" that has used the appropriate label inspired by one of Claude Monet's paintings about the experience "unconventional" in the Nadar Gallery, the famous photographer. As the painting was as a light blue net infiltrated of red-pink rising sun. Colors reflection in the water was
representative of short and sparse strokes of the brush. Main impressionist - Monet, Auguste Renoir, Alfred Sisley, as well as for several Paul Cézanne and Pisarro- have not much interest in scientific ideas about light and color and their atteintion had been more on the simple experience yet a nature that was drowned in sun-rich and glorious or a nature in the eternal and mysterious light in the morning or evening. (Arnason, 2004: 29).

The time had come, that painting is no longer merely, or even primarily, an imitation of the natural elements. Monet in Argenteuil Bridge has ordered all his elements, in a detailed network. He has blocked the background with horizontal mass of trees and bridge buildings. Brush strokes are temporary and most of the water level may induce, the impact of limited and low depth, and background has a state of colored areas, which are all parallel to the surface of the image. In this work, Impressionism can be taken into account as the ultimate refinement of visual realism, namely the description of visual reality, but not so simple that will be an imposing appearance of the natural objects, but as an endless metaphor of sunshine and shadow, reflection of water, and the role of clouds moving across the sky (ibid: 30).
In Monet paintings, nature loses its objective nature and turns into the flood of sensory effects. Painterly rendering of the visual experience is the starting point of impressionist (Bekola, 1998: 108).

In impressionism, material qualities of painting decay and become a mere "impression" (ibid.). Impressionists use pure colors in the firm and dense layer (undiluted), composed of numerous tiny and uniform pen strokes, so that any pen stroke makes a unified single color. The interplay of these innumerable elements of color and same size causes the vibration of paintings and creates illuminated spaces rich of a color that is the character of Impressionist art (Bekola, 1998: 109). Impressionist teaches carol to painting, and makes the painter a musician. Adding the music dimension to painting - as "the liberation of color" - no doubt is considered the most important achievement of impressionism (ibid: 111).

Impressionists are claiming an independent identity of painting were created as an object that has its value, with its own structure and rules apart from what can have as the depth of view or imitation of man and nature. So, finally, the impressionist can be considered as an ending point of a realist tradition in deep representative Renaissance and the important beginning of the discovery in the twentieth century of abstract paintings and Cubism amazing color modes (Arnason, 2004: 31).

**PAUL CÉZANNE AND PRIORITY OF COMBINATION**

Cézanne's art is the art of composition. His insight about the unity of the image has a deep and lasting influence on the concept of modern art (Bekola, 2008: 115). In order to emphasize on the flatness of the picture, Cezanne put aside the classical single-point linear perspective, created depth in his paintings through the layers of overlapping, and intertwined. He, instead of reducing any surface into complementary colors and any line into single stroke pens like the Impressionists, converted the objects to same colored spheres that are limited with clear boundary lines or darker or brighter neighboring levels. He, unlike the Impressionists, has emphasized the material density and strength of the evident reality and has cleared the essentially cubic structure of its components (ibid: 117).

![Picture 6 - Fruit Basket, 1895, Paul Cezanne](www.william-turner.org)
Cezanne extends finely brush strokes of the Impressionists, and specifies the vertical, horizontal and diagonal directions. His brush strokes become regular patterns or energy fields due to the effect of parallel layers of paint, frequent and tight together and make different shades of color and contrast in conjunction with each other, which are woven together (Schmidt, 1976: 90).

HENNRI MATISSE
Henri Matisse (a French painter, body builder, designer and printer, 1869-1954), because of his innovation, and his influence on contemporaries, is one of the most important artists of the twentieth century. The historical significance of his discoveries in the field of pure color can be considered in the form of cubism in the liberation of form from the shackles of objective representation (Pakbaz, 1999: 494-495).

Image 7 - The Red Room, 1908, Matisse
Source: www.william-turner.org

Matisse, in leaving the 'feeling', and Searching image Tools "pure", is similar to Mondrian. For example, he says: Colors and lines are power and the mystery of creation lies in the play and balance of these forces. However, he is alien to the mentality of Puritani and Calvin Mondrian. Matisse is not searching for an abstract truth, but harmony with life and the world. He, unlike Matisse, does not ignore artifacts and nature, but also he seeks to establish new relationships with them. Like the Impressionists, he does not look at nature from the outside. Not like Seurat, he wants to receive an analysis of the nature and not as Cézanne, he seeks to disclose the structure of nature, but he wants to capture it and make it his own. According to him, the artist attracts the outside world in self, so that the object of his design will be a part of him, to make him inner and could bring it across the canvas as his own creation. (Bukola, 2008: 185).

GEORGE BRAQUE, PABLO PICASSO AND THE FORM CONCERN
Faced with African sculpture around 1906, showing Cézanne's oeuvre in 1907 are the main factors pushing George Braque and Pablo Picasso to invent cubism between 1907 and 1914.¹ The two

¹ In the case of Picasso, Henri Rousseau's influence is considerable. The first experiences "cubist" of Picasso was influenced by the material brevity in Gomrogchi.
artists, in two stages of development, make the drawing from his previous links to external reality free and create art and theory prerequisites of a self-order art (Bokola, 2008: 169).

In the first phase of cubism development, known as "analytic", Braque and Picasso took Cezanne structural approach regardless of its color rendering and by limiting themselves to brown and ocher, green, and gray, insist more on their form. By body and space harmonic analysis to the cubist chips, step by step, they deconstruction the shape of things and create a kind of crystal independent of the object structure, if their paintings lose the conventional image readability and become formal self format (same).

Image 8 - A house in the garden, 1908, Picasso Source: www.wikiart.org

With cubism, image equipment modernization course, that was started with Impressionism, ends. While, Seurat broke the natural light into the whole net films, to save the color and gives musical resonance to it. Braque and Picasso have disintegrated the objects to volume and geometric elements, and have self-regulated the form and have given mobility to it (Schmidt, 1976: 171).

In the second phase of cubism development, known as the "hybrid" during which Spanish Juan Gris joined Braque and Picasso these two artists have simplified the structure of their paintings. Individual components of the composition are larger. Ijaz, contrast and more power will be emerged in lines and shapes. Variable formations of input, overlapping and often transparent levels involve the cubist effects of the previous stage (analysis). Picasso and Braque thanks to these levels of the inputs may mix the flatness with the image depth (Bokula, 2008: 170).
PIET MONDRIAN AND THE SPIRITUAL EFFECT

Piet Mondrian (1872-1944 Dutch painter and theorist), as one of the leaders of geometric abstraction, had a broad and profound impact on art and modern architecture. Mondrian believed that the appearance of the object has always prevented a beautiful feeling, so it should be removed from the image (Pakbaz, 1999: 541).

Mondrian has studied works include the controversial book of Helena Petrovna Blavatsky secret congenial (that is along with her till the end of life), the writings of Rudolf Steiner, and the book of great seekers Edward Shure and in 1909, he has joined the Theosophical Society² (Bukola, 2008:

² Theosophical Society (theology) was from the most influential religious movements, that Helena Petronablavatsky has founded it in 1875, in New York. Secret Disposition was the most important book of Blavatsky, consisting of five hundred pages, was published in 1888. In this book, he has mixed all kinds of occult sciences, alchemy, spirit, belief and mystical elements of Hindi, Persian, Hebrew and Gnosticism, to create a "cult" that claimed the mixture of common great religions essence of the world, and philosophical systems of all time (Blavatsky (1888), vol. 2, p. 294).
175). Mondrian symbolism period has lasted between 1905 and 1911. The most significant of his mystical thought in three rags drawing of "evolution" can be observed, which is an attempt to show the development and the individual growth in the sight of the "Halo" (ibid: 171).

A Mondrian encounter with Cubism is a revelation and a discovery. At once, he has found out about the art capacity of this visual approach, has found his expressive possibilities of science and tangible main interests and common-law and fundamental unity of the universe. Thus, his symbolic step of his works ended suddenly. Mondrian, a few months after this change of view, has stayed in Paris to study cubism and soon, his style of painting takes some distance from previous patterns and an evolution will happen that its result was the emergence of "Classic" style. In flashbacks to 1937, he writes:

I gradually realized that Cubism is not embracing its logical consequences of its finding and does not extend the abstraction to the ultimate goal, which is the expression of pure reality. I believed that this reality would be realized through pure idea. The pure notion in its natural state is not bound to feel and think. [...] The natural forms change, while the reality remains constant. Creating pure fact, in this way, requires reducing natural forms to fixed components of form, and the change of natural color to the primary colors (Bukola, 2008: 176).

![Figure 12 - reducing tree to abstract form, Mondrian Source: author](image)
In 1913, the first fully abstract paintings - have created floating structures consisting of vertical, horizontal and half-round lines: a system that is harmonious and more or less balanced that is an inductor of a sense of calm and dignity. Then the continuous process of simplification begins. Mondrian has eliminated gradually all the remained elements of "bother" (curved and diagonal lines and combination colors) from his work and from 1925, he has satisfied with the three elements of the design: white background, black vertical and horizontal bars, and three main shades of yellow, blue and red (ibid: 177).

Mondrian's later compositions, influenced by the fill pounding rhythm of shimmery neon lights, Dynamic New York City, and spicy rhythms of jazz, has colorful mosaics on their own (eg: boogie-Woogie on Broadway -1943) (Pakbaz, 1999: 542 ).

Mondrian and De Stijl group and other movements such as Bauhaus have left logically proven aesthetic criteria that will be entirely cleared the appearance of the technical and industrial civilization in the twentieth century (Bokola, 2008: 183).

<table>
<thead>
<tr>
<th>Painter</th>
<th>Approach in painting</th>
<th>Sample works</th>
</tr>
</thead>
</table>
| William Turner (1851-1775) | - Romantic trend  
- First simple impressions of the nature, continued follow-up searches in the world of light and color  
- To find a visual equivalent to a set of non-visual feelings  
- passionate and romantic represented by nature, a kind of escape from reality  
- Visualize the thought in the picture rather than mere | Snow blizzard  
Venice, Sunrise |
<table>
<thead>
<tr>
<th>Artist</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
</table>
| Claude Monet   | Describing the visual realities for endless metaphors from the sun and shadow, water reflection and the role of moving clouds.  
- The loss of objective nature and become a flood of sensory effects.  
- One of the sense of light and color in painting.  
- Spaces full of light, color, color dumping.  
- The ending point of deep Renaissance reality tradition and the beginning of the discovery of the 20th century. | From sunrise Argenteuil Bridge                                           |
| Paul Cézanne   | Cézanne's art, the combines art.  
- Things turn into areas of similar color, which are limited with certain boundary lines or darker or brighter with the neighboring levels have been limited. (Crystallized form in the drawings). | fruit basket Jadufan                                                     |
| Henri Matisse   | Intense and brilliant colors are colors and lines of force and the secret of creation lies in the play and the balance of these forces | The Red Room                                                            |
| Brock Picasso  | Works of art is not imaging, but it is making.  
- The shape of things will be deconstructed and a kind of crystal structure independent of the object is created.  
- By analyzing objects into volume geometric elements they have organized the form, and gave it mobility. | House in the garden Violin and Glass                                     |
| Piet Mondrian   | Removing the appearance image of the object from the image because it prevents the feeling of beauty.  
- An abstract is extended to the ultimate goal, which is the pure reality.  
- Reducing the natural forms to the fixed components of form, and turning the natural color to the primary color.  
- Late composition: under the influence of tense rhythm in shimmery lights of neon, dynamics New York City, fast jazz music, they had colorful mosaics on their own. | Three rags evolution Woogie Boogie in Broadway                           |

**DE STIJL**

Neo Plasticism movement was founded in the Netherlands in 1917 with the establishment of the magazine De Stijl (Style). Piet Mondrian introduced the term. He has proposed the Neo Plasticism
theory and has created a great revolution in abstract art. Mondrian believed that art should be "de-nature", meaning it should be free from any representation relation with natural objects and their components and rely solely on abstract elements. To achieve this, Mondrian has limited the elements of an artistic composition to straight lines and right angles (ie horizontal and vertical relations to the framework of the panel) and has used the three primary colors (blue, red and yellow) and black and white and gray (Lyntn, 2003: 498).

In 1917, at the same time with Neo Placticism movement, the leaders of the journal De Stijl have published the opinions and views of Neo Placticism artists broadly, critics circle later called it "De Stijl". Artists of De Stijl movement were looking for balance and coordination rules, in a way that they can be applicable with artistic and social. The votes of the De Stijl movement artists has reached a considerable influence between the two world wars, but most especially as they had an influence on the architecture and design, especially on Bauhaus school to other arts (Bani Masoud, 2010: 271).

<table>
<thead>
<tr>
<th>Painters</th>
<th>Votes from the artistic works in the movement De Stijl</th>
</tr>
</thead>
<tbody>
<tr>
<td>William Turner</td>
<td>Visual equivalent for non-visual set of emotions.</td>
</tr>
<tr>
<td>Claude Monet</td>
<td>Loss of an objective nature and becomes the emotional effects. Illuminated spaces, rich in color, free of color</td>
</tr>
<tr>
<td>Paul Cézanne</td>
<td>Combining art.</td>
</tr>
<tr>
<td>Henri Matisse</td>
<td>Intense colors and brilliant, colors and lines of force.</td>
</tr>
<tr>
<td>Braque and Picasso</td>
<td>Break the object into pieces and reassembled them.</td>
</tr>
<tr>
<td>Mondrian</td>
<td>An abstract will be developed to an ultimate goal, which is the pure fact. Natural color conversion to the primary color</td>
</tr>
</tbody>
</table>

**CASE EXAMPLES**

• Schroder House

The most important works of this movement in the architecture, the Schroder House can be cited. Gerrit Rietveld built the building in 1924 in Utrecht in the Netherlands that is the perfect job in the architecture of residential buildings. In the Schroeder house design, he has followed the original same principles that have used in making a chair, in 1917, meaning the decomposing it into pieces, and re-assembling it. The layout of the house was three-dimensional in Mondrian's paintings. It has
none of the elements of weight, pressure, or stillness; all levels, as far as possible, are narrow and all are external and internal volumes are enclosed. Some levels, on the corner of the building have come together, and some as if they have slipped in space with each other. The ground plan of the house has the flexibility and single rooms are "integrated" with solid walls of glass, and part of the ceiling had been evicted in such a way as if they have no anchor. The central part of the building forehead ha has been removed from the facade and instead, a vertical scale plane has been formed that creates a dramatic effect, as if it is an independent component and weightless. In the view, the vertical and horizontal elements intersect and balance each other. The only Schroeder intricacy is simple steel tubes that are used as fences (Lamponiani, 2002: 51).

Figure 14 - the Schroder House (internal space), Gerrit Rietveld 1924

• The Barcelona Pavilion

In the book of “Architecture and its interpretation” wrote by J.P Bonta in 1979, the Barcelona Pavilion is used as an educational work in accordance with the thoughts in the book. Bonta has discussed about architecture criticism and displaying the relation between Miss Vanderohe’s works and Netherland artists’ artistic movement in 1920 named De Stijl in his several pages of his book. The impact of this group on minimalism attitude and providing the job with minimum components in Miss Vanderohe’s works is clearly completed (Anvin, 2011:39).
In 1924, Miss Vanderohe wrote: “the creation of form in the formalism approach framework is something we seek to deny” and to continue, she emphasized on form issues for objectivity of an architectural work (like Barcelona Pavilion) in 1927 said: “I do not deny form; I do not disagree with limited the architecture in the form providing”. The point that it seems Miss has tried to say is expressing each architectural project as an opportunity for reading and studying previous approaches, a search that considers the main detail and architect’s job process ahead from a repeated response to architectural issue. (Ibid:40)

This loge like the Schroder House, Bauhaus buildings and Lokorbuzieh Villas will be a delicate solution for broader issues and common tool of its era. Historians pay their attention to the similarity of the map with Mondrian’s paintings, verbal used of materials (the relation between Miss with new identity), simplicity of wall surfaces that represents Miss Vanderohe’s tendency to coordinate unaffected surface from above to below, expresses the desire of Miss Vanderohe to unaffected fitness levels, from top to bottom, and have focused on the modernity and richness imagine of space with its floating Pages and uncertainties painterly fantasies (Curtis, 2003: 287).

• **Fallingwater House**

If it displays the body of Fallingwater house, only in the combined components of the plan (Image), identifying its relations, in the same way that is expressed in the ideas of 1920, "neoplastic" will be easily possible. For example, it is possible to mention the Schroeder's house, in the city of Utrecht in the Netherlands. Fallingwater house compares to the Schroeder house has less abstract in its structure, and of course, proportionally, it has more compatible with its surroundings. The plan of Fallingwater house, especially in its southern facade, emphasizes on the horizontal and natural layering of reefs around it and human movement, as well as openness to sunlight. In addition, Fallingwater house compared with the Schroeder house has more emphasis on its spread in three dimensions. In the discussed plan, it seems, architectural space, such as some boxes, is only connected to each other, while, in the spatial organization of Fallingwater house, this approach in the interior is provided both in the vertical and horizontal direction and is extended to the outdoors and landscape around the house (Unwin, 2011: 153).
## Case examples

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## CONCLUSION

In the Renaissance, the art of painting has reached the realistic perfection with the invention of perspective and after this period, artists of the 18th century in Europe thought about the reality except what they observe in the nature and it was their reading out art of nature. The art was toward the formalism and abstractionism. This movement was started by William Turner and was finished with paintings by Mondrian that was a net movement of form and color. Mondrian lived under the influence of divine wisdom and New York, where he lived, and he achieved a mystical minimalism in his works. De Stijl movement and neoplastism theory were the gateway to this formalism to the architecture. The research results that were done on three works of modern architecture in the early 20th century, can be seen, that the movement of radical abstractionism in the painting directly inspired the Schroeder house. Barcelona Pavilion in the map Plan and floating pages of the volume and Fallingwater house, in combination of its Plan components were such as Mondrian's paintings.

On completion of the study, the minimalism of Russian literature and its impact on constructivist paintings and suprematism and their relationship from the viewpoint with modern architecture can be mentioned.
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MODERNISM AND POSTMODERNISM IN ARCHITECTURE, AN EMPHASIS ON THE CHARACTERISTICS, SIMILARITIES AND DIFFERENCES

Niki Amiri
MA, Department of Architecture, Islamic Azad University of Babol, Iran

ABSTRACT
This research is conducted in order to describe the modernism and postmodernism in architecture, as well as the characteristics, similarities and differences between these two with each other. The research methodology is in library form and by using of books, domestic and foreign articles and related websites in this research. Among the features of each of styles can name the efficiency and pragmatism in modern architecture and adherence to a kind of unusual metaphysics in post-modern architecture. About the similarities and differences between these two styles can be said that these two styles do not have a lot of similarities but post-modern architecture has followed some aspects of modern architecture and has been created the similarity between them. Both architectural styles have been effective on socio-economic and environmental conditions and in particular philosophical conditions. Modern architecture had been involved with a big problem with the name of war and inevitably has wanted to fix it but post-modern architecture has came to action with a sense of shortages of this style and at the same time freely and rich intellectual backing. Modern architecture began with the civil period that attention to industry had been a principle and to succeed in the industry should be sacrificed anything. Ranging from human to conditions and human life. Post-modern era has been formed in contrast point with giving value to human and his/her emotions.

Keywords: modern architecture, postmodern architecture, features, similarities and differences

INTRODUCTION
Architecture determines the facts or superior values as an art work. Architecture gives visual expression of ideas. Ideas make meaningful something for human, because they organize the reality. Architecture as an original art represents the culture and civilization of a nation and race. So we need somehow to review their architecture for a full understanding of humanity and his/her opinions, whether in the past or present. There is no doubt in the importance of architecture and its benefits and its efficiency. But with the arrival of modern architecture, special change was created in the architecture and created changes in other arts and even in human thinking. With the arrival of this style of architecture can no longer outline a special feature for different architectures and somehow brought uniformity. In this discussion it is trying to show that what features do the post-modern and modern architecture have and their similarities and differences appear by examining each of them.

But the questions arise here such as whether modern or post-modern architecture were created at once? Are these undisputed subordinate of need of their own times? Was modern architecture and creating it useful or not? Is post-modern architecture a reaction against modern architecture?

Can postmodern architecture to meet deficiencies and shortcomings of modern architecture? In order to answer to questions such these, first were investigated two architectural styles and then the way of formation and features of each one to get the similarities and differences of these two architectural styles.
The term of postmodern was used for the first time since 1976 in the art world and in general, covers a willing that has created in front of absorption modernism. The basis of modern architecture that was the universal and dominant style in the twentieth century is rooted in the changes of Renaissance era that its origin had been the city of Florence in northern Italy about 400 years before the advent of modern architecture.

The modern world offers a different vision of the universe versus old world that arose from the intellectual and human-oriented beliefs (Ghobadian, 2003). Modern architecture was formed as an architecture school with a comprehensive theoretical foundation and constructed buildings according to modern thought of the late 19th century. This architecture was known in Chicago City of America and in Europe in cities like Paris, Berlin and Vienna (Ghobadian, 2003).

Post-modern architecture was raised as an important subject and style of the sixties and infrastructural criticisms were entered to the thought of logicism and technology-oriented of modern architecture. Robert Venturi called into question the modern philosophical principles and refused the technology-oriented insight and wanted to pay attention to human characteristics instead of that.

Venturi replied to the motto of less more of Mies Vander Rohe in less boring way. In his view, architecture is not only a technique and technology but also there is a complex issue in the building that cannot be ignored. He rejected international style and in its place believed in the contextualism because every building is designed based on cultural, social, historical and functional fields and its special conditions (Ghobadian, 2003).

MODERN AND POST-MODERN
MODERN ART
The foundation of modern art is based on shape and form. Modern art is accompanied with a kind of formalism and anti familiarity and alienation. Modern society thrown away traditional and mythical elements from the domain of knowledge by relying on human reason and intellectual logic and objective facts and social recognitions and subjective qualities entered in to the art field both in terms of separation and sense of aesthetics (Kanti) (Raygani, 2014).

Artistic modernism characteristics are: identity and unity, independence and self stability. Unity means establishing a link between discontinuous elements and integration in the multiplicity and confusion. Independence and self stability mean being far away of any external ornament and being internal its nature. Another feature of modern art is emphasis on the unconscious strains and mentality (Surrealism). Modern art distinguishes between authentic art and mass art (Frankfurt School). Modern art is simple and universal, and is far away of local standards (modern architecture and International Style). Modern art is abandoned from the determinations and social responsibility (formalism). And finally, modern art is of concept, is not a representation of reality and thus is not also indicator (Alizadeh, 2012).

POST-MODERN ART
Postmodern art is not unlike the modern and unitary art but also is pluralism, self-conscious, eclectic, and mixed and contextualize. Post-modern art does not discriminate between fine art of mass art. So this time mix them deliberately causes to create the kind of satire and humor. Post-modern leads to create eclecticism and humor with the combination of past and present styles in architecture with a combination of classic style, detective, western, etc in literature. Using a combination of "multimedia" to create an art work is one of the approaches of postmodern. Postmodern knows important socio and historical context In contrast to modern. In the post-modern art temporality and historical existence of human is the focal issue of effect. Modern artist tried to organize the disorganization and without shape world within the framework of its effectiveness and considered mentality and intellectual work prior to anything, but postmodern artist knows the effect more important and more valuable than his/her Intention and desire. In his view, organize is futile work. He/she want to make close him/her
to the overall context of culture and society. Postmodern periods are the transition period and leaving behind the aesthetics (Robert, 2009).

MODERN ARCHITECTURE
Modern architecture was as a milestone in the history of Western architecture or in other words in the history of world architecture, because for the first time, the attitude of the tradition, history and past changed its direction as a source of inspiration of architecture and future and development were introduced as main objective and subject of architecture. Architects and theorists tried to make homogeneous the architecture as a science and technology with evolving world (Ghobadian, 2003). Modern architecture emerged in the form of global style, the style that took root after World War I and spread in the reconstruction of Europe after the Second World War. This style had its claim to reform architectural process and building design with abandon the no planning and traditional management through the adoption of a global system of architecture. This new architecture was organized with the norms of rational, and used of one of the most efficient materials such as concrete, steel and glass (Malpas, 2007).

Modern architecture is new and universal and rooted in concepts of construction that is appropriate to a modern industrial society, so that transformation and its composition, aim at the community that it is under the testing. Space was used with similar physical properties in it. Uses abstract form and tends to pure architecture (Jawdet, 2005). Modern architecture measuring usually pays attention to the concept of functionalism, so before anything pays attention to the effectiveness and efficiency. Some even believe that modernism was a slave of the power of capitalist rule and has sacrificed the architecture which means that the forms can be found of needs and few resources in logical way (Norouzi Borazjani, 2003).

Goal of modern architecture was "less is more" of the words of Mies Van der Rohe in the first stage and also Brankochy says, "The purpose of art is not simplicity but the person reaches to simplicity in the approach to the true meaning of things, against his/her ". This kind of simple is real in this type of new settlement. But the goal here was not limited to simplicity. Gidben has defined the second stage of development of modern architecture "urban humanize “and the third stage as the manifestation “new memorial orientation " that means to create buildings that makes symbolic the social, religious and common life of humans. He added "new regionalism" as a fourth point in 1954 and stated that the architecture before building any plans inevitably checks the way of life in place (Norouzi Borazjani, 2003).

Modern architecture is divided into three periods: the early, high and late that in its early modern is divided in to three Chicago, art movement and the movement of Futurism styles. supreme modern architecture, or the top of modern architecture was formed between the two World Wars I and II, means mainly in the twenties and thirties AD in Europe and in the early modern period still historicist styles such as Neo classical, romantic and especially eclectic had important as the popular and common styles in the west. One of the key and very important issues was the issue of industry, industrious production and technology in the excellence modern era (Ghobadian, 2003). Locorbusieh considered the use of steel girders and concrete and pre-fabricated, as the path of the future architecture and knows the pre-fabricating and high-rise making as only solution of future cities. Later modern architecture can be considered after World War II to the early 70's (Ghobadian, 2003).

Happened developments in the field of architecture in the last three decades of the last century caused to destabilize the pillars of only inclusive and universal style a major part of the twentieth century means modern architecture. These changes have rooted in fundamental intellectual and social changes and transformation of attitudes towards themselves and the world around in the West (Ghobadian, 2003).
But, according to Jencks towns that their fundamental principles had been based on rationalism and engineering of work environment are considered as the culmination of modernism in architecture field (Malpas, 2007).

Modern functionalism theory believes that architecture merely acts to determine and meet the needs of the employer with a scientific analysis and modernism has had a contentious relationship with usage and nature that both are the body like structures., Locorbusieh almost is the only one among the modernisms who was in search of a proportional human-centric and modular system (Kit of relativism, 2007).

Michael Graves says the modern movement undermined the poetic form to win the non-figurative and abstract geometries by rejecting the human or humanism of the previous architecture. Modern architecture offers the solutions for the problems that must be solved that were pure and lean but are annoying and boring by conscious limiting the issues. As a result modern architecture is not at the same level with modern science of poetry or art that all have found the complexity and contradictions. Modern architecture accepted machine analogy rather than organic analogy. Machine is often designed based on natural systems, but application of formal pattern, prevented the architecture of direct reference to the nature (Kit of relativism, 2007).

POST-MODERN ARCHITECTURE
It can be said that postmodernism is an attempt to treat the problems and difficulties of modernism, and despite of promoting a kind of anomalies is considered a continuation of modernism and not as a reaction against it "(Jabiri Moghaddam, 2005).

Post-modern architecture seeks the identity of human and history of each nation and race is considered as part of the nation's identity. So they show cultural and physical history and as well as grammar of architecture of each ethnic in their architecture in each area.

But this show is not for duplication of the above cases, but what is related to the identity of a nation is updated in their buildings and appears based on the circumstances of time and place in new and updated way. Therefore post-modern architects have no hesitation in changing proportions, colors and functions of historical signs.

Post-modern image of the city has been designed as the place of images that is in competition with other cities. Urban design paradigms based on the theories of post-modern architecture have criticized the development the lack of their economic and social aspects (Dibaj, 2011). According to Marshall Berman, postmodernism is a complex and intertwined configuration of diversity of ideas, opinions that emerged in the late 1960s and still is active and in dynamic and expanding form in the late 1990s. The term of postmodern has followed many and various discourses. The process that still is continued (Rasouli, 2015).

Louis Kan, Robert Venturi, Michael Graves, Aldo Russi, Frank Grave, Charles Moore, James string and Ricardo Bafil consider as the most prominent faces among designers and architects of postmodern, although all of them are not happy and satisfied with this tag "(Nozari, 2000).

Other group of post-modern architects and urban designers (neoclassical) supported back to the bio force and beauty of pre-industrial forms. Ingersol critizes this kind of historicism: Pre-industrial forms and spaces are not necessarily suitable for the post-industrial ways of life (Wiley Bie Oughlo, 1999).

Urban design in post-modern urbanism reflects a wide range of approaches of design, texts and applications. But common problems in design especially noted to revitalization projects in downtown,
historic preservation and projects of increasing the public space (for example street design, reduce traffic and ... (Wiley Bie Oughlo, 1999).

In this way, this way of patching, merging and combination cannot consider as innovative or revolutionary initiative and radical in the post-modern, but also in fact is that thing that Harold Rosenberg called it "tradition related to new" (Mahlabani, 2013).

Many architectural historians do not believe that postmodernism can be considered as a style in accordance with the Baroque, modern, classic or gothic, it seems that postmodernism is a result of the crisis in concept of style and nothing more. As the last true style was born in the architectural history was modernism that was associated with indulge in functionalism and structural rationalization and brought architecture in to a crisis that postmodernism tried only to its speedy recovery. Effort of architecture to transform the memory and perhaps the removal it and the conversion of pre-modern human to modern human by using the architecture was the thing that stimulated the reactions opposite it more than all (Jawdet, 2005).

Post-modern building is a building that raises itself in front of modern architecture at the same time at two levels: one for architects and limited group of enthusiasts that pay attention to certain concepts of architecture and another for public by local residents, who pay attention to other aspects such as comfort, tradition and way of life. In this way post-modern architecture seems to be a hybrid and cross. It can be similar to the effect of a classical Greek temple (Jawdet, 2005).

Robert Stern, Robert Venturi and Charles Moore have been considered as the founders of postmodern historicism that theoretically have changed the focus and emphasis from the independent formalism and modern to search for meaning. Stern counts three main areas of attention of these postmodern architects that all are related to the production of meaning: the facade, the city and the idea of "cultural memory." He calls these three areas of activity or the principle that emphasize on the attentions as decorationism, contextualism and gesturism. According to Stern, in the forms of postmodern historicism movement is hidden a kind of realism because these forms are identities from "social, cultural and political environments that have created them'. All three principles of stern consider an important role to date in the production and creation of meaning in postmodern architecture (Kit of relativism, 2007).

Post-modern architecture pays attention to dealing of critics with large-scales and available styles, the adoption of regional identity and return to the practical traditions. Post-modern architecture in the light of process that Jencks calls it "double coding" is a process that is acceptable also for special and general and popular people and is suitable for the designer and the consumer, by borrowing the styles of different periods and assistance of other monuments in its designs is diverse-oriented and eclectic (Ameri, 2012).

Replacement imitations of post-modern are not of earlier styles means a return to pre-modern period. Post-modern uses of pre-modern components in a way that recognizes also the styles that contemporary style is originated from it and integrates them in its ultra-modern designs in trustful way. Post-modern architecture tries to give human aspect to social environment Instead of changing the identity of the inhabitants of social environments in order to adapt them with preset rational layouts and at the same time have the maximum use of materials and ingredients and obtained progresses in modern fields in the field of construction techniques. (Malpas, 2007).

FEATURES OF MODERN ARCHITECTURE
Modern architecture focuses first and foremost on the efficiency and pragmatism, and uses the style and tools that has not had a history of such use to this size and in a way tries to develop in the modern era and uses all possibilities to achieve this purpose (Kit of relativism, 2007). This use causes to restrict the human role in its creating and whether causes to superior the technology on human. This
goal is possible better that is with the lowest cost and highest performance and the best way is that we resort to technology and scientific estimates. Modern architecture at the same time, has a holistic mode, means due to the fact that buildings are built in industrial way finds breadth and comprehensiveness and is not for the unique of a person or a particular style.

This architectural style, acts to meet the needs and because it uses a single form is the anti-decorated, anti-show, anti metaphor, anti-historical, anti remembering and anti-humor and the meaning has been lost in this architectural style in a way (Kit of relativism, 2007).

Means architecture does not transmit the specific meaning and concepts and does not seek to answer to question or reaction to a particular point of view. Christian Harris, philosopher and lecturer at Yale University believes that the feature of “objectivity” of modernity has improper benefits. First, the physical environment has been changed to the materials in the hands of human so that exploit of it in blind and unaccounted way and second, detailed architecture is from technological culture that demands "machines for living" not demand the machines (Kit of relativism, 2007).

From the perspective of Zavari modern architecture has characteristics including: 1 design based on open plan 2- creates the absolute relationship between internal and external space, flexibility and freedom to create interior walls 3. Collect all the positive points, spatial experiences throughout history in modern architecture 4. The use of the new technology specially glass instead of tall walls. But Loricbusieh also knows other quintuple principles such as high making, garden on the roof, the application of pulled window of open facade and the ceiling of the console as principles of modern architecture (Alizadeh, 2012).

FEATURE OF POST-MODERN ARCHITECTURE

Post modern architecture due to the weaknesses in modern architecture, tries to solve them and create an atmosphere that is different and better than the modern period. Postmodernism is non-exclusive in general against modernism .Means postmodern are finding ration for modernity in the twentieth century. One of the characteristics that postmodernists consider for themselves is to follow their form unusual metaphysics (Jawdet, 2005). Postmodernists say though Metaphysis inks and religious principles are destroyed, but there is still a general principle and it is that performance will remain spiritual. Their spiritual realm states like surrealist painters around virtual or explicit metaphors in a form of architecture (Jawdet, 2005).

Among the characteristics of post-modern architecture can be noted the following points:

• Social, cultural, historical and economic characteristics of people who use these buildings.
• Urban characteristics and the features of streets, alleys, shop
• climatic conditions and humidity, heat and cold conditions
• The way of daily living of people who live in building, their needs, their habits, how to use and their mental backgrounds and relationship with biological forms.

The post-modern architecture is also called pop or folk architecture because are used of the popular and interesting decorations and colors for the people in this architecture. Unlike modern that special people can understand its abstract concepts and meaning. Post-modern building has a duality in rules and concepts, one for the intelligentsia people and the other one for the general public (Ghobadian, 2003).

Of other features of post-modern architecture is that artists of postmodern have provided human shape and other recognizable forms again in their works and finished long-term domination of abstraction that was started with Cubism, Constructivism and Suprematism. In the post-modern architecture, using historical styles or recognizable components of specific styles has similar meaning and purpose. According to Jencks post-modern architecture has features including:
• It is a kind of pluralistic architecture—a highly eclectic that adopts of difference and distinction and otherness of the praising and different styles and languages.

• This eclecticism causes in a diverse kind a kind of harmonization and dissonant harmony, a kind of use of antithesis materials and a kind of paradox that is the second post-modern features. This mutual aversion is humorous and satirical

• A kind of urbanism and urban living that buildings do not
• Seem alone and are a mixture of rituals, imitations and ridicules and causes to expand other buildings around themselves.
• Postmodern buildings have human character or human shaped.
• Reflects the relationship between past and present.
• Have eagernessness to the meaning and content.
• Existence an additional encryption of composition and put together the styles. The building of postmodern does not reflect this or that but also reflects both this and that.
• Building of post-modern is multi-aspects or multi-valence. Means it can be a meaning of lot of things. Unlike being single-meaning or single-aspect the Modernist building. Post-modern architecture is multi-valence, non-exclusive, elusive, resonant and symbolic.
• They reinterpret the tradition means they are not a copy of mere past.
• Many postmodern buildings are longing to return to the center of the goal.

Post-modern architecture is a reaction against that thing that contemporary Austrian painter with the name of Fritz Handrarsr has called it tyranny of straight lines. An emphasis is on curved lines, emphasis on the unpredictable affairs, the emphasis on decoration and imitation and non-functional and beauty and in the new architecture. Transparent and mirror like surfaces and the winding millenniums are considered major elements in postmodern architecture (Nozari, 1999).

SIMILARITIES AND DIFFERENCES IN MODERN AND POSTMODERN ARCHITECTURE:
These two styles have not a lot of similarities, but post-modern architecture has followed in some aspects of modern architecture and has been caused to create the similarities between them.

For example, in regard to technology and use of most updated construction equipment and tools to facilitate work; another case is attention to improvement although this aspect is not clearly included in the postmodern but undeniably is seen in this style. Modern architecture and also post-modern architecture have a common story in use of technology and industry and in shaping to the identity of building. But the architecture does not seek the purity and simplicity in this context as modern architecture was looking for it (Bast and Kellner, 1997)

Another aspect of similarity is in a way paying attention to the need although in a performance-oriented modern architecture, is the main objective to answer to the requests, but in the postmodern also is involved this attention to the need of society and person means the same slogan of the post moderns that says: architecture should not be done by one person but also many people should be involved. At the same time is in the center of the customer's attention and taste. This means attention to the needs and a kind of request of human beings as we see in the postmodern in a way. Another similarity that can be regarded between these two styles is a positive aspect that has reached of modern architecture to the post-modern architecture and it is relying on management and planning that separates the modern period of traditional period that can be observed in this period. In terms of similarity between these two styles can be applied this interpretation that the post-modern architecture has put "feet on the shoulder of modern " that it means paying attention to modern architectures and its evolution in order to respond to new needs. Disagreement and differences of these two architectural styles seem to be more than their similarities. Modern architecture in the original sense of word is passing the history and the past while in postmodern the strict attention to the tradition and history of each culture and civilization is one of the main aspects of this architecture style.
In other words, Bast and Kellner believe that "modern architecture denies history while post-modern architecture digs it out because of its rich stylistic and symbolic resources" (Bast and Kellner, 1997).

Modern architecture with the goal of globalization (i.e. international style) has taken step into the field while has considered post-modern architecture and attention to the traditions of each race and nation. Modern architecture has a kind of Unitarianism based on the lack of attention to history and with globalization in it; but we observe pluralistic according to tradition and contextualism in style postmodern. Jencks says that "postmodernism is a selective combination of each tradition with prior style, and also continues the modernism and going beyond it "(Jencks, 1997).

In modern architecture is seen a kind of contentious relationship with nature and the bodies that have organic shapes that is on the contrary in the post-modern architecture, means there is an attention to the nature and inspiring by it. Modern architecture enters itself in a new realm by rejecting earlier anthropomorphic and poetic styles in favor of non-figurative and abstract geometries, but we see in the post-modern architecture that paying attention to the human aspects is an important part. There are many uses of abstract and meaningless forms in modern architecture while paying attention to the meaning and various forms in order to appeal is the aim in the postmodern architecture. We see a gap between thought and feeling due to lack of space and functionalism in modern architecture that post-modern architecture in this respect is opposite point of the modern architecture. Modern architecture in order to progress, and to achieve the aim destroyed the traditional and old neighborhoods of city to create a new urban signs that this matter was associated with strong protest and support of these tissues in post-modern architecture. Decoration and paying attention to the different interests and tastes have importance in postmodern while with the simplicity and low slogan has justified it in modern architecture. We see following the kind of unusual metaphysim in post-modern architecture that is not important in modern architecture. Functionalism and mathematical thinking govern in modern architecture According to the Jenks doctrine rule of modernism in architecture can be called improving the pragmatic that belief of that work was more with fewer features (Jencks, 1997).

But cultural thinking is dominant in addition to functionalism in postmodern architecture so it can be seen in the post-modern architecture a kind of pluralism, so the spirit of building of post-modern is compatible with democracy and the spirit of modern building with tyranny. Finally, post-modern architecture has had artistic vision than performance, which had been considered just doing in modern architecture (Robert, 2009).

CONCLUSION
In this study, we mentioned modern and post-modern art, as well as features, differences and similarities of modern and postmodern architecture. It can be analyzed with a special look that these styles pass a period of history of architecture that had been effective the socio-economic and environmental conditions and in particular philosophical conditions.

Perhaps, it can be said, modern architecture during the history that has had, was involved with a big problem with the name of war and inevitably has fixed it. For this reason, it could not be coordinated with comments and philosophical schools of modernity space but the post-modern architecture has formed with a sense of lack of shortages of this style, and yet freely and with rich intellectual backing. Modern architecture is a kind of security creator, the person of modern period is not looking for beauty and decoration, is looking for a place where runs away of homelessness and insecurity. Modern architecture began with the Civil period that attention to the industry had been principle and to succeed in the industry should be sacrificed anything, Ranging from human to human life and conditions. Post-modern era has been formed In contrast with giving value to human and his/her emotions not like modern period that ignores everything with calculator and jobber wisdom on the way to achieve the target. Post-modern architecture because of different feelings that have appeared in different places has breadth and diversity. Lyotar argues that undoubtedly post-modern is a part of the
modern and in a sense precedes the modern. One effect only if it is first postmodern can be modern (Dibaj, 1998).

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AN OVERVIEW OF THE THEORETICAL FOUNDATIONS OF PUBLIC SPACES WITH AN EMPHASIS ON URBAN SQUARES

Niki Amiri  
Master of Architecture, Islamic Azad University, Babol, Iran  
Nik.amiri@yahoo.com

ABSTRACT
With a glance at the various fields in the past, present and urban public space as well as comparative in the fabric of the constituent elements such as sidewalks, paving, communication, activities and many other areas of physical criteria and space can achieve the positive or negative results such as the feeling of Ghana, discipline, balance, flexibility, vitality, consistent sense of being trapped, landmarks, monuments, identity, spirit, activity and many other factors. Most urban squares in cities, especially in the new part, reflect the fact that these spaces are designed in a logical continuation of the past. In other words, not only the principles of urbanism and architecture and urban design ignored, but also the principles and criteria were not received logical spaces not only for the present but for the future would be inappropriate and alien. Therefore, the importance of the theoretical foundations of urban spaces among designers and architects, especially in the field of design over and over gets the feeling that this important issue has been discussed in this study. Methodology and data collection was libraries (observation and interview), respectively.

Keywords: urbanism, architecture, urban space, field.

INTRODUCTION
Public space is generally interpreted in two ways. A public space with an immaterial nature that goes back to the ideas and values within a community and the general atmosphere of the nature of the material that represents the physical realms urban community. The recent concept had physical approach that has marked the city's streets and squares.

Square is Play field for the life of a city, shows movement, vitality, effort of its citizens to live. Square with the layout and composition identity the city and the identity of its inhabitants. Power, creativity, art and perfection of the people is in it. Indicate the love of life and love to the collective aspirations. Order and cleanliness and peace of mind of people are in it. If you want to know the city, visit the field of the public, the city is reflected in the small mirror perfected its squares. Reviewing the history of the city is enough; In East and West in the Old and New, long-term field as an urban element, in different sizes and shapes, there have been settled communities scene into history. But this article is not to nuance and complexity of the historical and social evolution of the field and its surrounds but evaluative study, from the perspective of professional and urban design to this important element of urban, to see at this time, how are we and our cities, what's happening to the squares that we had.

PROBLEM STATEMENT
In this study of cities and settlements throughout history, three-way or three historical periods can be identified. In the first period, cities and areas, sales were essentially market squares; in the second period, cities were centers of industrial production in the third period, cities were formed on the basis of the establishment of logistics centers and consumer services. The main pillars of development and
development of cities are the need for people to gather. These needs include security and defense purposes, trade and exchange of goods and services or access information, participate in or organize activities that require common effort and so emanate. Main factor in urban public spaces are, activities that are needed by people to communicate with each other. This means being at one time and in one place. Gathering of people in a space and time will facilitate an important social dimension, which later came to be known as the nature of the city in a cultural sense. Without mass public places in people's lives, mission is in trouble. For the urban area of nutrition and strengthening of communication and public relations diversity that is the essence of the city remains (Carmona, 2009).

Public spaces such as streets, squares and urban nodes valuable role for urban planning and design. This is due to the influence of the social and cultural aspects of urban spaces and thus produce social capital. In the meantime, city squares due to their special nature and their performance in spatial and physical structure of the city and as well as the mental reproduction of meaningful role urban public space areas are the most effective area of a city in the minds of citizens (Pakzad, 2005).

Considering the importance of the present research scholars on the subject of the theoretical basis of public spaces with an emphasis on urban squares and researchers and designers to focus on design and review was conducted in urban areas, especially in city squares. -urban space

One of the city's urban spaces building space that comes with the history of a nation is created in different periods, forms and changes. Urban space, outer space and public life of the city in which it occurs and the two main components of streets and a square are formed. A basic condition for an urban environment, social interactions taking place in it. From the perspective of urban space doctor Pakzad five main types are: input nodes, paths, edges, water and stairs. The nodes, which have influence on the minds of citizens that is the focus, may be on the field, gathering place or at the gate of segregation. Nodes, including the local, municipal, ceremonial and bolts are a total of nodes, stability, aggregation-taking and consolidation is expected (Ebrahimi, 2009).

During different historical periods, often behaviors of people as well as design and layout features private and public spaces were similar and were influenced by each other. Studies show that the first measure that human use of urban space is square. Square arises from the accumulation of houses around an open space. The most appropriate function for the carrier, business, cultural and residential. Some researchers believe that the only role of today’s cities is not right gate (Pakzad, 2006).

**IMPORTANCE OF URBAN PUBLIC SPACES**

In contemporary cities, urban public spaces of the city are one of the fundamental components which had the social and physical concepts. Urban public spaces in the most general sense as a physical reflection of the current cities are considered public domain. These spaces due to one or more physical characteristics or space for face-to-face relations, public experience of the space, the human relationship with the urban fabric and holding the collective efforts of public and citizens have been designed and crafted.

Public spaces feature can be briefly described as follows:

- The ownership of the spaces is for all citizens and for public use and is universal;
- In these spaces, in addition to the distinction space and body, conduct significantly changed.

As a result, arbitrary and freely place to behaviors that lead to solidarity and interests of citizens; these spaces are free from domination by car and by creating peace of mind, security and behavior of human-centered creates environment and more engaging for spending leisure time (Massoud, 2007).
One of the simplest methods of classification of urban public spaces is, dividing it into two main spaces and spaces pause motion. In this way, a movement corridor spaces and the spaces are called pause.

Importance of the physical and social fabric squares in cities highlights, the poverty shape our space in urban public spaces. Today, city squares and the nature of their primary function are lost and space has become mere traffic. The field is too small or large, crowded and polluted air and visual, adverse landscape and buildings around the square inappropriate factors that have caused the decline of public spaces.

A city has spaces for public life and social relationships on their citizens. What is the appeal of the town and its memories, its squares. A field when it can be called urban plaza that also have a social function, a place for gatherings and social activities and human relationships and society.

CONCEPT OF ENVIRONMENTAL QUALITY
In Dehkhoda dictionary definition meaning “state or a condition that results in something”, equivalent quality in Webster's Dictionary means "how good or bad thing are" and the Oxford dictionary "measurement standards in something compared with other similar things ". On the other hand the common definitions of the word, quality means "the good and worth of something" (Oxford).

Quality is a thing or a phenomenon that particularly impact on one's emotional and intellectual. Quality differentiates the phenomena of time and can be obtained form (formal or formal qualities), performance (performance) or sense (quality concept). So the quality of urban spaces can be divided into two categories:

• Quality-forming space structures and forms (forms and shapes).
• Quality of compatibility between the components space (form, function and meaning).

Whatever humans belonging to a space more the space qualified higher quality. This requires that space and put more people audience is interacting with him, meet his needs and behavior patterns is suitable container. In other words have more meaning for viewers and users to understand, done easier and faster. Urban spaces as well as other phenomena have meaning components, performance and form requirements.

No matter how these components together is beyond space quality gets better and more harmonious. There is a variety that define the quality of a man's hand, and also hierarchical perception that the quality is perceived by both its objective and subjective aspects, on the other hand, has caused a variety of quality arise. In the simplest classification quality can be divided into two categories: quality real and the quality of mind. Accordingly, the qualities that belong to the realm of subjective quality in mind are that are resident within the realm of objective and mutually related quality-called real qualities, which are qualities belonging to the object and the foreign entity subject to the mind and the outside world and deal with the real (Golkar,2001).

SOME THEORIES OF ENVIRONMENTAL QUALITY
Among the numerous works that have studied the factors and indicators of environmental quality, the report only mentions a number of important theories in this field are until after they review a framework for understanding environmental quality can be achieved.

In 1961 Jane Jacobs in The Life and Death of America's great cities, high-quality environment suggests the following criteria:
• Pay attention to create appropriate activities in the environment before considering its visual order;
• Use mixed land uses in terms of both architecture and buildings;
• Emphasize the street and the influences viability (availability) is relative to surrounding tissue;
• Incorporation of social and flexibility of spaces

Kevin Lynch in 1981 in Good City Form examine mainly large-scale this issue and believes vitality along with five other factor meaning, relevance, access, control and discretion, efficiency and equity, functional axes good shape make up the city. Lynch won the status of a public space should be such that:
• Receptive many people. Also nearby retail centers that are attractive and pedestrian-producing activities.
• Its size should be such that mass entertainment and events have the capacity, but not so large that it will destroy closeness;
• Create a vibrant space is possible, surrounded by retail shops, restaurants and bars are surrounded;
• Design space should increase its capacity to attract and compliance activities. In this regard, urban furniture, flexible use, convenience, compatibility, high quality and simplicity of the important factors are high (Lynch, 2008).

Ian Bentley in 1985 and in environments respondents, the collection has studied urban design qualities. Bentley and colleagues states 7 criteria (components) that should create an environment of respondents (qualified) are adhered to the following:
1. Permeability;
2. Diversity;
3. Readability;
4. Flexibility;
5. Visual proportions;
6. Sensory richness;
7. Color belong (Bentley, 2003).

David Kanter and John Panther pioneer of environmental quality studies in 1990 introduced a model called "model site", the urban environment consists of three intertwined bodies; the activities (performance) and (perception).

All that these three components each task they meet one of three quality physical activity and environment are responsible sense.

It is also one of the most important theories about the quality of the physical environment, was published in 2003 by Matthew Carmona. In this work with public urban spaces as places, Carmona effective quality physical environment is divided into the following components:
• Structural factors: access to space;
• Conceptual or semantic components: public space, security and urban landscape;
• Social components: inclusive of the space;
• Visual components: hardness and softness space;
• Functional components: mixing and compaction performance;
• The time component of time management using space.

The theory of similarities and differences in perceptions of the quality of the environment and key metrics that theorists have offered to provide a qualified environment. A review of these theories, we can now provide a framework for understanding the quality of urban space.

As noted urban space consists of three intertwined structure, function and perception. Accordingly, the recommendations in this report are based on quality components to meet design environment to the fields of functional, structural and conceptual (semantic) space measures. It can be five criteria for assessing the quality of the environment is as follows:

• The construction and proper form;
• Existence of functional diversity;
• Despite the vitality and charm in space;
• Identity and unique features;
• There are visual proportions and sensory richness.

![Figure (1): proposed model for measuring the quality of the environment](image-url)
Improve the quality of urban public space planning process is based on guidelines and criteria with expectations, requirements and users of space affects behavior, the functions, the operation, activities and social implications.

Therefore, this model should be different elements and indicators that have to be carefully considered in relation to the quality of the environment and also operate their experiences. Customer recommendations planning can communicate with vitality, the diversity, the richness of ideas and visual quality to cause a public space. Based on the criteria seem to be four main components that form the square, surrounding access, schedule and performance as well as the materials, equipment and furniture used over other elements and components of a field can be used for quality and improving the quality factors contribute Square (center for the study of Tehran urban planning, 2013).

**SQUARE**

Persian culture means the earth in certain fields, arenas and facilities of the few streets that connect them. Square is a dramatic arena for the life of a city and moving the attempt to give life and vitality of its citizens informed. The design and composition to the city's identity and secure the originality of its inhabitants. This field indicates the strength, creativity, art and friendliness of the people perfection of love of life and love story of the collective aspirations. A brief review Square the historical evolution of ancient cities so far, suggests that, with time, Square city had an influential role in the collection of organs, and great effects on the formation and spatial organization of the city to different historical periods. Square as urban space with human presence and significant pause, to a certain intention in relation to population movement has emerged. In addition to its effects on the creation of a space of communication, contacts and activities reveal a man (Abraham, 2009). Square has always had a special meaning in the minds of citizens. Despite changes in form and function to the reasons mentioned above, this image will not be changed. Square subject to spatial and temporal role and has taken various functions. Sometimes it was a place for the supply of goods and sometimes for the government and the Court or religious. In modern times many of its functions were transferred to buildings. Due to the current situation, different functions of society in the past can not be expected (Naghi Zadeh, 2006).

**RATIONALES FOR SQUARE**

Anywhere in population density, village, City or Metropolis, human group life sometimes requires certain public functions that unavoidable gathering of large number of residents. There is a central gathering point for the community and always the easiest and most logical business solution has been to meet these needs. And especially when human movement and transportation was implemented in scale, performance is good. Residents of a city, urban access to a range of internal and external production and has opened its requirements have been raised. If small town right - weekly or monthly market was formed in it, if a large and heavily populated, right - its market standing was designed. Although the main performance is, community and commerce that sometimes functions were no longer needed to focus on the importance and ability to meet this increase. Especially if you also need the functions inherent to a more open space than a simple crossing or adjacent to urban access roads were normal. Integration in the field is - more and more necessary to be serious market. At the beginning of temples and other places of worship, the point is immanent to rallies and meetings were priests and pilgrims. The continuation of general performance, margin and adjacent space these places become fertile ground for social and other public services such as artisans, vendors, beggars and others have been invited to attend and activities. Organize the activities necessary to fulfill their tasks other hand, such as policing, monitoring the legal trade and prevent personal conflicts, theft and violence, as well as receiving tax. On the whole reason for disrespecting police forces and government agents (Zucker, 2006). Therefore, there has also been a
perfect space available. The primary criteria for the design of such a situation are the prerequisites by the actions of religious, economic, political and recreational involves the formation of the right - is the traditional market had been dictated. Composition and design of the historic market in various regions and periods from this angle is, reasonable and necessary and inevitable in response to the functions of cities. Agora, Forum, Market Square, Piazza and The Plaza has different names. In urban communities are given the same performance. Despite different measures changes in the pattern design and culture of each society, all initial units have been designed according to the need and concept (Ebrahimi, 2009).

TYPE AND MAIN FUNCTION OF SQUARE
Since the introduction of Square concept, types and functions Square are one of the important factors but disappeared adjust and mix in place of or in any Square of activity. As naturally suburban business in a field that was built in lacks space Such as Square sales, sheep, horse sales, etc. took place in outdoor. Each group was settled in part of the Square. While in a field important rule, at least in front of the mansion Outdoor government there was no less important activities such as retail, the sale. It rarely happens that used the neighborhood squares to open a permanent basis for buying and selling (Soltanzadeh, 2006). According to a proposed categorization fields on the basis of their performance are divided to the public, the business, the government, the military, neighborhood squares, sports fields and fields communication. Other views are also different categories of action taken. Different categories of fields from other views also took place. Including the classification of Square information that Zucker does. They are divided into five categories that include Square fenced and closed the dominant Square, nuclear Square, fields collectively, Square amorphous (Nazari Razie and Begay, 2011).

THE BULK PROPERTIES OF SQUARE
CLOSED SQUARE
It is the surrounding space bodies. But this is not an absolute being trapped, because the passages that lead to this space, in the body requires openness. To maintain the blockade by using elements such as arches, entries body masks. Like Square "Meyer" in Madrid, Spain. Sometimes independent buildings form Square bodies, which are located side by side, (Scheme 2).

OPEN FIELD
There is space around the building. The result is often the art of gardening determined with trees and shrubs planted in certain places and keeping things in order. These fields are more to decorate residential areas. The difference between the fields of urban parks, among other limitations is in the size and shape of clear space by trees (Scheme 1).
HALF-OPEN
Space is formed often at the roadside next to the last. The fourth body or wide open space. Or a transparent body, by trees, bushes or columns is enclosed. Many features of English gardens are the same (scheme 4).

SQUARE AND THE DOMINANT BUILDING ON IT
An area that is mostly used in urban planning. A major public building, dominating the Square, located on the edge of it, as proportion of it can include Square full space and vice versa. In this situation only unique architecture and dominate is its space field. Even overshadowed the other features of its own. Structures are created that increasingly influence, can build a mosque, a government agency, museum and theater (design 3).
DIVIDED SQUARE
Space is formed a number of other areas that are related. In the past, this type of space is usually when elected and should have an important place of the city, the seat of government built. The most famous squares are, Piazza San Marco in Venice Pyazta (Project No. 5).

STAR-SHAPED OR CENTRAL SQUARE
Circular space at the end of the nineteenth century was designed generally to the development of cities (more circular shape is inspired by and based on how the car is moving). This space, the axes are focused to a point, connected to the streets and alleys. Emphasizes the lines of the city's physical orientation. The beautiful view to the fountain, statues and memorial columns creates the middle of the field. Etoile Square the triumphal arch victory in Paris and Tehran's Azadi Square are examples of this type of field (plot number 6).
LONG AND STRETCHED SQUARE
Space is shaped by the development of a street. Many past street markets, in this type of field were created. Today in regions and areas where there is understanding, and harmony between mounted and dismounted traffic, such as residential areas, (30 km per hour speed limit for motor vehicles and pedestrian right of way), this type of field can be see (scheme 7).

MODERN SQUARE
But individual buildings close to each other with geometric regularity and occupy a certain space. The combination of these volumes together and empty spaces between them in relation to the ground, and one man creates architectural. This is an example of square modern design (plan No. 8). Berlin Alexanderplatz design competition "Mies van der rohe" Square plan was presented this way (Hdmn and Yazvsky,2006).
Numbering Plan (7): Square long and stretched  
Numbering plan (8): Modern Square

EFFECTIVE CRITERIA FOR QUALITY SQUARE

SQUARE FORM
Square forms an important part of the design process and shaping the urban landscape. The perception of space and its quality is very important. In terms of performance could also limits Square space in front of traffic passing vehicles instead of fences and protective bars, determine. Square in shape, it is important to understand visual form. This understanding of the elements Square the floor, the body is determined and openness. Axes track and Square form also specifies and defines the threshold of space. In this way we can increase Square importance of buildings and objects in space. Fenced off and access, describes the function of Square body. So how confined the space differently, the impact is especially effective space. Through building surfaces, characterized Square. You can also plan your body square and surrounding streets extended to adjacent edges. Since the space of each Square mainly takes the form of access, passages and paths as the edges of Square and its surrounding elements are important (I Wong and Singh, 2005).

DETERMINE HOW TO ACCESS
Field enclosures and position in relation to its streets, has a great effect on the functioning and effectiveness of Square. Based on new design ideas, are designed squares that although the traffic comes in contact with, but should not be bisected by it on or off. Access can also create a login and openness to the field and can enclose Square space and the space around them separate. In this case the Square is crucial for navigation and routing vehicles (Pasyvn, 2005).

CAREFULLY USED MATERIALS AND FURNITURE
Square surface texture and properties of the surface such as design, color, and composition determined quality characteristics Square the materials. Surface design represents Square different functions and the type of solid surfaces with paving, paving, asphalt, concrete and other solid surfaces with rubble, sand, grass, as well as the borders and dividing lines, tables, corners, stairs, fences, Turret, protective walls, gutters and so on. So the field can Square spaces, elements and connect it to the body. Would require
them or separate members. So it should be a map and a diagram analysis includes all materials and equipment used, such as rocks, plants, wood, iron, wood, water and asphalt to reshape and features on the space provided. The most important factors shaping Square environment, objects and open spaces are certain elements that set. Columns, fountains, sculptures, pavilions, etc. are among these elements. On the other hand planting trees, flags, spars, hull lights and ventilation are also part of these elements. On the other hand dimensions, proportions and position of the elements and most importantly, form and function are important criteria that should be considered in the design (Van Camp et al., 2003).

PROGRAM AND SQUARE PERFORMANCE

Square most important stimulus programs and attractions to create a public space and are also the nature and identity. The main factor Square success is, vitality and flexible operation at any time of day or night. Square program can also stream coordinate the activities and support them. Initial ideas for programming could include the following measures:

• Holding the ceremonies and rituals related to the seasons;
• Provide a game space and meeting people;
• Design visually appealing messages;
• Artistic activities, displays, musicians and so on.
• Create space for public debate;
• Create teahouse, restaurant and so on;
• Lighting and decoration.

<table>
<thead>
<tr>
<th>Concept</th>
<th>Field</th>
<th>Criterion</th>
<th>Component</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility Urban Square</td>
<td>Body</td>
<td>The structure and proper form</td>
<td>Square Form</td>
<td>Body and distinctive edges</td>
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<td></td>
<td>Access</td>
<td>Urban street network connection</td>
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<td></td>
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<td>Materials and</td>
<td>Strengthening the structure and form of furniture, flooring, etc.</td>
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<td>Planning and</td>
<td>User continuity in the sub-body and glazed</td>
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<td>Performance</td>
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<td>Function</td>
<td>Visual and sensory richness of</td>
<td>Square Form</td>
<td>The ability to sit back, relax and chat in the square</td>
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<td></td>
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<td>match</td>
<td>Access</td>
<td>Equal access mounted and dismounted</td>
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<td>Materials and</td>
<td>Diversity and harmony in the use of materials, equipment and furniture</td>
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<td>Planning and</td>
<td>Variation in the use of space (in terms of time, personnel, etc.)</td>
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<td></td>
<td></td>
<td></td>
<td>Performance</td>
<td>Strengthen neighborhoods and regional nature center</td>
</tr>
</tbody>
</table>

Table (1): components and indicators measuring the quality of urban public squares
<table>
<thead>
<tr>
<th>Perceptual</th>
<th>Square Form</th>
<th>Use the edge of space</th>
<th>Despite the vitality and charm in space</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Access</td>
<td>Its convenient walking route to the Square</td>
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<td></td>
<td>Materials and furniture</td>
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<tr>
<td>Planning and Performance</td>
<td>Ability to set up a temporary markets</td>
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<tr>
<td></td>
<td>Access</td>
<td>The definition of Square edges of the street network</td>
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<tr>
<td></td>
<td>Materials and furniture</td>
<td>Harmony and contrasts in materials, building materials, furniture</td>
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<tr>
<td>Planning and Performance</td>
<td>Revealing the historical continuity of space</td>
<td>Having the complexity and specific performance</td>
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</tbody>
</table>

**CONCLUSION**

Any city, however small, can boast of having the beautiful and noble field, provided that all the important buildings are gathered there, like an exhibition that case, the value of other items. How to design green spaces, fountains, statues and sculptures used in urban squares in the environmental balance, mental relaxation and beautification of urban citizens plays an important role.

The most important element is making city squares space. Always is formed by history of a nation that occurs in different periods. This element of the different activities of cultural, economic, social and ... always hold in it, always pulsed at the heart of the city history and the figure history of the cities. So do not think that it is an element of the old Urban and cities does not need today. Do the new phenomena such as satellite communications, the Internet and in other cases still unable to take the Square. But also town squares is crystallization of the collective life of the citizens of a city.

Given the importance of this issue, according to the principles and the theoretical basis of urban studies and urban design in particular fields can solve many problems of these spaces and provide growth and development of cities.

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THE EFFECT OF COGNITIVE BEHAVIORAL COUPLE THERAPY ON REDUCTION OF MARITAL CONFLICTS AND BURNOUT OF COUPLES

Amir Ali Rajani
BA in Psychology, Islamic Azad University, Gorgan Branch

Dr. Leyla Sadat Azizi
Faculty Member of Islamic Azad University (Central Tehran & Gorgan Branches)

Samin Naeemi
BA in Psychology, Islamic Azad University, Gorgan Branch

Ali Asghar Amiri
BA in Psychology, Islamic Azad University, Gorgan Branch

Mohammad Javidan
BA in Psychology, Islamic Azad University, Gorgan Branch

Halime Darvishi Gholi Abad
BA in Psychology, Islamic Azad University, Gorgan Branch

Kiana Hosseini
BA in Psychology, Islamic Azad University, Gorgan Branch

ABSTRACT

Introduction and objective: family is the most important institute of every society and the society will be developed if the family positively does their performances. If there is a conflict in the family, its performance will be disordered. This study has been conducted to assess the effect of cognitive behavioral couple therapy on reduction of marital conflicts and burnout of couples.

Methodology: the type of this experimental study is pretest-posttest with control and test groups. Statistical population of study includes couples of Golestan province, Iran. The sample size was obtained to 64 members using simple random sampling and they were placed into two test and control groups. Both groups were pretest before implementation of protocol and posttest was conducted for both groups after implementation of protocol. The obtained data were analyzed through SPSS20 software using formulas of mean and standard deviation as well as covariance formula at inferential level.

Findings: the analyses indicated that training of cognitive behavioral skills has a significant effect with coefficient of 0.46 on marital conflicts and training of cognitive behavioral skills has a significant effect on marital burnout with coefficient of 0.65.

Discussion and conclusion: according to the findings of this study, it is suggested to experts and consultants in field of family and family therapy consider training of cognitive behavioral skills as an important factor before marriage or within conflict between couples.

Keywords: cognitive behavioral couple therapy, marital conflicts, marital burnout

INTRODUCTION

Family is a vital and primitive social institute guaranteeing health of people as well as survival of society. All of societies should have a system to replace its members in order to be remained. Family would prepare possibility to realize this replacement (Fernans, 2006, quoted by Alimardani, 2011). Marriage is one of the most important needs affecting all aspects of human life for about half a century.
(Bastani, Golzari & Roshani, 2011). The history of marriage goes back to the start of history love, kindness, marriage and marital conflicts have been always existed from the beginning of the creation. In fact, mental health of human is strongly related to a successful marriage (Mahmoodi et al., 2015).

Marriage would begin with a hope, hope to understand our feelings and accept us, and hope to gain sense of belonging, to be supported through a security (Davarnia, Zahrakar, Moayeri & Shakarami, 2005). Most of the people hope to have an eternal love when they fall in love. This hope is so powerful that can affect healthy mind, make reasons meaningless and make eyes blind toward reality. After a while when couples face realities of life and daily problems, would understand the reality. In this case, couples might experience marital burnout and conflicts (Dentone, Veberton & Golden, 2012).

Marital conflict has been defined as the high level of interactions along with hostile and stressful disagreement between couples as well as disrespect and misbehave (Robila & Kerishenamore, 2005). Conflict can effect on mental, physical and family health and many of studies have confirmed the relationship between marital conflicts and depression, eating disorders and specific disease such as cancer (Elinamane, 2004). Burnout is also a bad physical, mental, and emotional situation that effects on life of people who expect love to make a perfect life for them. Burnout occurs when couples find that their relationship has no significant effect on their life despite their efforts (Sadeghi, Zareefar & Adeli, 2013).

Kayser believes that marital burnout is gradual reduction of emotional attachment to spouse along with alienation, apathy and indifference sense between couples and replacement of positive feelings with negative feelings. Pinese et al. (2011) know burnout as a physical, mental and emotional fatigue that is created within long-term conflicts and emotional gaps. Since marital burnout includes decreased love, passion and increased hostile behaviors, it can lead to marital dissatisfaction and destruction of family foundation (Hosten, 2009). There are different approaches of family therapy and couple therapy with the aim of reducing conflicts and relationship confusion between couples. The purpose of couple therapy is to help couples to have appropriate adaptation with problems and learn effective methods in relationships (Rostami, 2014).

One of the psychological approaches is cognitive-behavioral approach to treat marital conflicts and marital burnout (Datilluo, 2005). The main factor in cognitive-behavioral approach is concentration on thoughts and feelings beside their effects on emotions and behavior (Yoneg et al., 2003). The cognitive behavioral pattern emphasizes on emotional and behavioral responses toward life events that are related to relevant interpretations to their thinking methods. These interpretations might be distorted or inappropriate (Backome et al., 2010). Family therapy is an intervention to change interactions between family members through improvement of family performance as a unit that is formed from members. Family therapist aims to break all patterns that make family members upset or destroy interpersonal relationships. Cognitive-behavioral approach toward family therapy assumes that family members can be influenced by each other or effect on each other (Datilio, F. M., 2001). Therefore, behavior of a member of family would lead to behaviors, emotions and cognitions as response by other family members. In this regard, instability within family activities might lead to increase in vulnerability of family members against conflicts and creation of negative interactions (Simos, 2002).

According to the mentioned points, a healthy family is an ideal and reality and many studies that support the relationship between marriage and psychological health (Stutzer, & Bruno, 2006). Married people have more life satisfaction and happiness beside mental and physical health, high self-esteem, and sense of mastery compared to single people (Durden, 2006). It would be essential to study effective factors in this field since sometimes there are conflicts and burnout between couples beside some harms such as divorce. Hence, the main issue of this study is to assess the effect of cognitive behavioral therapy on marital conflicts and burnout.

**METHODOLOGY**

The type of this experimental study is pretest-posttest with control and test groups. Statistical population of study includes couples of Golestan Province, Iran in 2015. 64 members were chosen as...
sample size through simple random sampling method and then they were placed into two test and control groups. The criteria for entering to study was having more than 5-years married life and criteria for exclusion from study was divorce experience. Both groups were pretested before implementation of protocol and then posttest was conducted for groups after implementation of protocol. The obtained data were analyzed using formulas of mean, and standard deviation as well as covariance formula as inferential level through SPSS20 software.

MEASUREMENT TOOL

QUESTIONNAIRE OF COUPLE BURNOUT MEASUREMENT (1996)
The scale of marital burnout is a self-evaluation tool has been designed to measure marital burnout level among couples. Couple burnout measurement (CBM) has been adopted from another self-evaluation tool that is applied to measure burnout. CBM was established by Pines (1996) (Pines & Nunes, 2003; Laes & Laes, 2001). This questionnaire includes 21 items that are divided into two main parts including physical fatigue and mental fatigue such as sense of worthlessness, frustration and anger to wife and all of these items are responded through a 7-scored scale. The level 1 includes lack of experience about the mentioned term and level 7 indicates the high experience about the considered term. It will take 15-20 minutes to complete the CBM (Pines, 1996, Shadab Trans, 2007). Evaluation of validity coefficient indicates that this coefficient has an internal inconsistency with variables within domain of 0/84 and 0/90 (Pines & Nunes, 2003; Laes, 2001). Navidi (2005) measured Cronbach’s alpha of this questionnaire about 240 samples including 1200 nurses and 120 teacher in Iran and reported this coefficient equal to 0/86 (Davarnia et al, 2015).

MARITAL CONFLICTS QUESTIONNAIRE (MCQ)
Marital conflicts questionnaire (Sanaee, Alaghband, Falahati & Hooman, 2008) has been established to assess marital conflicts. This questionnaire evaluates 8 dimensions of marital conflicts including reduced cooperation, reduced sexual relationship, increased emotional reactions, increased children support, increased personal relationships with relatives, reduced relationships with relatives of spouse and friends, separated financial affairs, and reduced effective relationship. This questionnaire is a tool with 54 questions that minimum and maximum of scores are calculated between 54 and 270 that maximum score of each subscale is equal to number of questions of that subscale multiplied by 5. The items of this questionnaire are ranked within a 5-points LIKRET scale (always=5, mostly=4sometimes=3, rarely=2, 1=never) and some items are reversely scored. The more the score is in this scale, the more the conflict is and the less the score, the less conflict and the better relationship is between couples.

To assess validity and reliability, the mentioned questionnaire was implemented for a 120-members group with 48 men and 72 women who had referred to consultation center and for a control groups with 150 members including ordinary couples (68 men and 82 women). Cronbach’s alpha was obtained to 0/96 for the whole questionnaire for a 270-members group while this coefficient was obtained for 8 subscales as follows: reduced cooperation (0/81), reduced sexual relationship (0/61), increased emotional reactions (0/70), increased children support (0/33), increased personal relationships with relatives (0/86), reduced relationships with relatives of spouse and friends (0/89), separated financial affairs (0/71), and reduced effective relationship (0/69).

IMPLEMENTATION METHOD
When the couples informed about the general goal and scope of study, they declared their conscious satisfaction about participation in study. The number of sessions (12 sessions) was determined at the first session, every session was 70 minutes and the time of next session was determined at the end of each session.

<table>
<thead>
<tr>
<th>Row</th>
<th>Session name</th>
<th>Summarized description of content of session</th>
</tr>
</thead>
<tbody>
<tr>
<td>First session</td>
<td>Familiarity and implementation</td>
<td>Questionnaires were</td>
</tr>
</tbody>
</table>

Summary of the content of cognitive behavioral sessions
<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second session</td>
<td>The first interventional relationship</td>
<td>Family members introduced themselves in this session and expressed their problems. At the end of session, therapist assessed and ranked the problems through family involvement.</td>
</tr>
<tr>
<td>Third session</td>
<td>Training of cognitive behavioral skills</td>
<td>Therapist taught family members to resolve the problem in this session so that family members could benefit from their abilities to effectively deal with life problems.</td>
</tr>
<tr>
<td>Fourth session</td>
<td>Training of interpersonal skills</td>
<td>In this session, therapist taught consistent interpersonal skills to family members and they learned how to behave against stressful personal situations.</td>
</tr>
<tr>
<td>Fifth session</td>
<td>Training of skills to face stress and detente</td>
<td>Family members learned how to deal with stress in this session through proper behavior against stressful situations. Therapist taught detente to family members in the second part of this session.</td>
</tr>
<tr>
<td>Sixth session</td>
<td>Assertiveness training</td>
<td>Therapist taught assertiveness to family members in this session. This training included three aspects: 1- assertiveness in expression, 2- assertive rejection of improper demand, and 3- assertiveness in behavior and then inappropriate methods of assertiveness were taught.</td>
</tr>
<tr>
<td>Seventh session</td>
<td>Training of cognitive restricting</td>
<td>In cognitive restricting, beliefs, interpretations, individual self-talk and distorted cognitive processes were intervened. Therapist was about to identify ineffective cognitive distortions and teach the logical and organized thinking methods to family in this session.</td>
</tr>
<tr>
<td>Eighth session</td>
<td>Training of positive thinking</td>
<td>It was taught to family members to think positively in this session.</td>
</tr>
<tr>
<td>Ninth session</td>
<td>Training of communicational skills improvement</td>
<td>In this session, therapist taught communicational skills to family members emphasizing on two principles of 1- skill of effective expression, and 2- skill of being an active listener. The second part...</td>
</tr>
</tbody>
</table>
of this session was related to sympathy skill. In sympathy training, person emotionally responded through percept of the reactions of others

Tenth session  Training of anger-control skill  In this session, therapist taught cognitive behavioral principles of anger control

Eleventh session  Conclusion  In this session, therapist had a question and answer meeting with family members. The opinions of family about the conducted interventions was asked and then the results was assessed and pluralized and family was planned

Twelfth session  Posttest implementation  Questionnaires were again implemented and participants were post tested

**FINDINGS**

According to table 1, the scores of posttest in test group have been considerable decreased compared to pretest while there have not been any significant difference between scores of control group before and after implementation of cognitive behavioral protocol.

<table>
<thead>
<tr>
<th>Group</th>
<th>Pretest Mean</th>
<th>Standard deviation</th>
<th>Posttest Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test group</td>
<td>112/82</td>
<td>14/35</td>
<td>81/75</td>
<td>12/42</td>
</tr>
<tr>
<td>Control group</td>
<td>102/34</td>
<td>19/15</td>
<td>100/20</td>
<td>18/90</td>
</tr>
</tbody>
</table>

According to table 2, there is a significant difference between scores of pretest and posttest of test group while there is not any considerable difference between these scores of control group.

<table>
<thead>
<tr>
<th>Group</th>
<th>Pretest Mean</th>
<th>Standard deviation</th>
<th>Posttest Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test group</td>
<td>30/23</td>
<td>6/98</td>
<td>22/45</td>
<td>4/33</td>
</tr>
<tr>
<td>Control group</td>
<td>30/45</td>
<td>7/11</td>
<td>29/78</td>
<td>7/01</td>
</tr>
</tbody>
</table>

**Table 3.** Results of covariance analysis (ANOVA) of posttest scores of marital burnout

<table>
<thead>
<tr>
<th>Changing sources</th>
<th>Sum of squares</th>
<th>Mean squares</th>
<th>F</th>
<th>Effect size</th>
<th>Sig level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect of pretest</td>
<td>32/54</td>
<td>32/54</td>
<td>18/09</td>
<td>0/65</td>
<td>0/001</td>
</tr>
<tr>
<td>Effect of group</td>
<td>1750/58</td>
<td>1750/58</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Error</td>
<td>6215/94</td>
<td>295/99</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 4.** Results of covariance analysis (ANOVA) of posttest scores of marital conflict
DISCUSSION AND CONCLUSION
This study has been conducted to assess the effect of cognitive behavioral therapy on reduction of marital conflict and burnout. The obtained results of study indicated that training of cognitive behavioral skills could significantly affect on reduction of marital conflict and burnout and this result is coordinated with results obtained from studies of Arieta (2008), Chang (2003), Stiths (2004) and Shafeenia and Hosseinian (2007). According to theoretical bases of this study, from the perspective of Seamus the reason for the effect of cognitive behavioral family therapy is that many of cognitive behavioral solutions are applied in this field emphasizing on following options:
1- Determining of family members expectations from each other and their effects on interactions between family members
2- Benefiting from methods leading to increase in abilities of family members to deal with unexpected events, changes and crises (Seamus, 2002)
The main reason for the positive effect of cognitive behavioral family therapy on variables of study might have been related to this matter that problems of studies families have been interpersonal not intrapersonal. In other words, a small problem has led to conflicts between family members and this conflict has been increased during years. Therefore, one of the reasons for effect of cognitive behavioral family therapy could have been related to this matter that these interventions have led to correction of unreasonable and illogical, correction of negative communicational methods between family members and correction of unreal thoughts. Therefore, it can be stated that family therapy through cognitive behavioral method have helped families to properly face problems with settlement of conflicts between family members through training of techniques such as problem solving skills, interpersonal coping skills, stress coping skills, assertiveness skills, training of cognitive restructuring techniques, positive thinking, communication skills and sympathy for family.

REFERENCES
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A FRAMEWORK FOR EVALUATING PROJECT MANAGERS’ PERFORMANCE-IDENTIFICATION AND ANALYSIS OF KPIs IN SUBWAY CONSTRUCTION PROJECTS IN TEHRAN

Amir Naser Ghanbaripour
School of Civil Engineering, Iran University of Science and Technology, Narmak, Tehran, Iran
Ghanbaripour3@gmail.com

Parviz Ghoddousi
School of Civil Engineering, Iran University of Science and Technology, Narmak, Tehran, Iran
Ghoddousi.3.esf@gmail.com

Ariyan Yousefi
School of Civil Engineering, Azad University South Tehran, Tehran, Iran
amir_ghpr@yahoo.com

ABSTRACT

Background/Objectives: One of the major issues for project management in a project environment such as subway construction project in Tehran, is the poor project management performance analysis. PM’s performance plays a major role in the success of construction projects and the identification of proper Key Performance Indicators (KPIs) can lead the project to success.

Methods/Statistical analysis: In spite of advances in project management, these indicators have not yet been identified for subway construction projects. This paper reports a research study that identifies the KPIs in Tehran subway construction projects and investigates their use as a tool for evaluating the project manager’s performance.

Findings: Statistical analysis of the success factors and use of key performance indicators has revealed that 3 of the indicators have the greatest impact on PM success. These indicators include: human resource management, communication management and procurement management. This suggests that PMs who work in Tehran Metro construction projects, and have been successful in managing projects have taken more account of these performance indicators than other factors.

Applications/Improvements: It can be stated that the subway construction PMs studied can improve their performance by focusing more on human resource, communication, and procurement management and increase the chances of project success. These three factors can be very helpful making success in subway construction projects.

Keywords: project manager, performance, construction project

INTRODUCTION

An increasing number of organizations are implementing their business operations through projects. Subway construction projects in Tehran are so essential in view of the city's traffic congestion and the success of this projects is vital for sustaining economic growth and social well-being. The ability to travel inside the city, connecting the suburb to the center of Tehran with proper speed, accurate travel and high-tech safety, reduction of environmental pollution, creation of a calm and relaxed social atmosphere, optimization of urban transportation, decreasing citizens time wastes and reducing accidents, are some of quality advantages of using subways.

Although performance of the project managers (PMs) plays a major role in this, the current project management practices of construction industry sector organizations do not always ensure project success. The success of a construction project greatly depends on how the project has been managed and controlled. The main problem associated with project management practices have always been identified as planning, project implementation, cost and time overruns and non-achievement of
Several studies have shown that a set of key performance indicators (KPIs) can be used to assess the performance of the projects, companies, and project managers and, so the purpose of this paper is to identify the KPIs which can lead subway construction projects to success and use them to evaluate PM performance.

**LITERATURE SURVEY**

**PROJECT MANAGEMENT PERFORMANCE**

According to A Guide to the Project Management Body of Knowledge, Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. Traditional PM systems which exclusively pursue the success criteria of cost, time, quality and meeting technical requirements have become considered ineffective. PMP assessment has evolved over the past couple of decades as both researchers and practitioners have attempted to identify the causes of the project failure and the various factors that lead to success. For example, Fortune and White cited critical PMP success factors as ‘support from senior management’, ‘clear realistic objectives’, ‘strong and clear detailed plan kept up to date’, and ‘good communication and feedback’.

As a result, a new set of difficulties has been encountered in developing models for measuring performance because stakeholders' needs are often difficult to manage and measure. There is sometimes also resistance to moving beyond the traditional criteria because of commercial pressures. These difficulties have resulted in limited literature on more holistic performance assessment frameworks for project environments.

There is some degree of consensus among certain researchers that the EFQM model, based on philosophy of TQM, can be an effective performance assessment model. Project Excellence Model (PEM) is an adaptation of this model that links project success criteria with critical project success factors. Bryde has propose the project management performance assessment (PMPA) model that was based on the EFQM and links TQM and PM practices. In place of the nine criteria used in the EFQM model, the PMPA model consists of five high PM performance enablers: PM leadership, PM staff, PM policy and strategy, PM partnerships and resources and project life cycle management process. The final area in the PMPA comprises the PM Key Performance Indicators (KPIs) which represent the practices by which actual achievement is measured. The PMPA model is presented in Figure 1.

The success of a project has traditionally been thought to run on PM performance with an emphasis on the achievement of time, cost and quality targets. It was often argued that these measures were overly simplistic for gauging managers' performance in the context of today's construction industry where. Many other factors come into play. In order to explain the relationship between project performance and PM performance, Toor and Ogunlana presented a conceptual model in which they divided project management into two domains, namely of process and performance. The process domain deals with project objectives, devising an adequate project management system, and the delivery of product during the input, process, and outcome stages, respectively. The performance domain, in contrast, focuses on performance goals, the establishment of a performance enhancement strategy, and performance measurement during the input, process and outcome stages, respectively. Toor and Ogunlana note that performance measurement can be carried out by establishing KPIs which offer objective criteria to measure a project’s success.
RELATIONSHIP BETWEEN PM PERFORMANCE AND PROJECT SUCCESS

The traditional view of project success is associated with fulfilling time, cost and quality objectives (the iron triangle). Financial criteria have been used to measure project performance, including economic return and cost/benefit analyses and profits. Another way to evaluate the benefits of PM is to analyze the margins of a company's ongoing projects.

The main purpose of using a project management framework is to increase organisational value. The organisation can benefit from using project management framework by increasing the effectiveness of human effort in the organisation while increasing the efficiency of these efforts. Therefore, project success is measured by its efficiency in the short term and its effectiveness in achieving the expected results in the medium and the long term.¹⁵,¹⁶

The PM literature argues that a positive relationship exists between PM Performance and Project Success (PS) claiming the latter is dependent on appreciation of the importance of PM. They further emphasize that this role must be considered in terms of the wider organizational strategy and long-term expectations.⁶. It has been argued that both PS and PM Performance are distinct yet inter-related concepts, and a positive relationship between them is sought.

A systematic PM consists of methods, toolkits and models. It can be viewed as the sequential application of structured processes for the purpose of institutionalizing standardized practices. Using a well-structured and well-implemented approach, capabilities can be stored and transferred over time, space and context. Additionally, PM can make organizations less vulnerable to the loss of tacit knowledge stored in individual memories. Project manager is a critical success factor (CSF) in a project, providing direction, goals, motivational support and assistance in resolving interpersonal and organizational issues.¹⁷

Farzana and Pinnington⁶ concluded that [Management of] PM KPIs is the most significant individual variable contributing towards the success of any project. This suggests that if there is PM performance measurement in an organization it can significantly impact on Project Success. The PM literature advocates defining the targets and using measures to achieve required results. Therefore, methods should exist in an organization to formally develop these KPIs. Organizations should have a system that ensures that KPIs are developed from the perspective of all stakeholders and encompass not only short-term benefits (for example, meeting cost, time, quality objectives of current projects), but also the long-term benefits for the organization like learning and continuous improvement.

In this paper, to identify Successful managers and assess both KPIs and individual characteristics influencing their success, four indices relating to the PMs’ previous projects have been studied. Conducting 27 interviews with academics and project managers, it was concluded that each of the managers who scored more than 60% (3 out of 5) would be considered as a successful manager.
KEY PERFORMANCE INDICATORS IN CONSTRUCTION PROJECTS

The KPIs represent a set of measurable data used for evaluating and measuring performances in implementation phase. One of the challenges for contemporary project managers is to determine which critical measures will guarantee project success for all stakeholders. A project manager is to define measures and KPIs based on the partner relations between project manager, client and other stakeholders.

KPIs are compilations of data measurements which are used to assess the performance of a construction operation. In order to measure performance or calculate the effects of any given change on the construction process, one must first determine the appropriate KPIs to focus on in order to measure its impact. Despite extensive research, up until now there has been no general agreement on a single set of KPIs for construction projects, and so there is a need for identifying a common set of indicators to be used by construction executive and project managers in measuring construction performance at the project level. Toor and Ogulana note that performance can be measured by establishing KPIs which offer objective criteria for the success of a project. Hence, this study focuses on finding specific KPIs which can lead subway construction projects towards success, and seeks to validate a framework to measure the PM’s performance of these projects. Knowing what performance should be measured, how the performance can be measured, and what the measurement results mean is fundamental to the selection of KPIs. This knowledge is used to avoid the use of improper indicators that may lead to the bias in measurement results. A total of 9 potentialities are summarized from the literature survey to form the basis for identification of the most important indicators. They will be investigated in the later research and are listed in Table 1.

<table>
<thead>
<tr>
<th>Key Performance Indicator</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Management</td>
<td>1, 10, 12, 36, 42, 45</td>
</tr>
<tr>
<td>Cost Management</td>
<td>1, 10, 12, 36, 37, 42, 45</td>
</tr>
<tr>
<td>Quality Management</td>
<td>1, 10, 12, 36, 24, 37, 42, 45</td>
</tr>
<tr>
<td>Safety</td>
<td>1, 10, 36, 37, 42, 45</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>1, 10, 45</td>
</tr>
<tr>
<td>Scope management</td>
<td>1, 36</td>
</tr>
<tr>
<td>Procurement Management</td>
<td>12, 36, 37, 42</td>
</tr>
<tr>
<td>Communication Management</td>
<td>10, 12, 36, 42</td>
</tr>
<tr>
<td>HR Management</td>
<td>8, 33, 36, 42, 45</td>
</tr>
</tbody>
</table>

METHOD

QUESTIONNAIRE DESIGN

A structured questionnaire survey method was selected to identify the KPIs leading to the success of subway construction projects. The KPIs were adapted from peer reviewed publications in the PM research area. The first section obtained useful descriptive data about respondents. The next section dealt with PM Performance and asked respondents to state how they perform in diverse areas. In section three, data was elicited about the success in the context of subway construction projects recently completed within the organization. The questionnaires distributed among project directors and the researcher attended all of the construction sites personally and conducted face to face interviews in order to explain the purpose of the questionnaire, to ensure that the questionnaire was completed by the director or his/her deputy, and to maintain the confidentiality of personal information of the project managers.

The questionnaire contains questions related to six key performance indicators, each of which is questioned by three items so that a total of 18 questions are created. As previously mentioned, these indicators are derived from different resources. Answers are closed and a Likert Scale from 1 to 5 is used. Before responding to the key questions, the project manager should answer four questions about personal characteristics which include age, education, work experience in the field of civil
engineering, and subway construction projects. Finally, questions relating to the success of the project manager in previous projects are asked in order to distinguish successful managers.

VALIDITY AND RELIABILITY

Reliability:

Reliability was investigated for each construct using Cronbach's alpha. Based on the results, 3 potential KPIs were removed from the PM Performance questionnaire. After eliminating these questions, the alpha coefficient for all scales was above the acceptable threshold level of 0.7. All the Cronbach alphas for variables within Project Success were above the acceptable value of 0.7. Cronbach alpha of the whole survey tool after eliminating 3 questions was 90.1%. These results confirmed the appropriateness of further analysis of the obtained data.

Validity:

Both internal and external validity were considered for the survey. As the selection of the initial measurement items (KPIs) was based on a review of the theoretical and empirical literature, it is vital to assess internal validity. A pilot questionnaire test distributed among six potential participants, and they were asked via interview to complete a questionnaire and to present a critique of the questions. Some of the changes suggested by the participants in this survey were incorporated in the final questionnaire. The final questionnaire comprised 6 KPIs divided in 18 questions within 3 sections.

STUDY SAMPLE

The target population for this survey are PMs of subway construction projects in the metropolis of Tehran, a group of individuals who share a common trait or traits. Such populations can be divided into two groups-limited and unlimited-according to the constituent members: since the number of Tehran subway PMs working in the construction industry is estimated to be about 52 people, so the target population is limited.

In order to examine the characteristics of this population, namely the statistical community of the project managers, the sample should be selected that is representative of the features and characteristics of the community and selected in a way determined by the. As a result, any information about the population can, more or less, be retrieved from the sample. In this study, the sample comprises the majority of PMs who work in Tehran subway construction projects and a random selection method was used to select the sample. For this the researcher moved randomly around the city of Tehran to places where, according to the TUSROC information, a subway construction site was working and selected the managers. In order to obtain the best results, All 52 Tehran subway construction PMs were evaluated and questionnaires were distributed among all of them.

DESCRIPTIVE STATISTICS OF THE DATA COLLECTED

The average age of the PMs is equivalent to 33 years with a standard deviation of 6 years. The oldest PM is 45 years old and the youngest one is 23. Over 80% of the managers are less than 39 years of age.

The average work experience of the PMs in the field of civil engineering was 9.8 years with a standard deviation of 5 years. Two managers with 20 years, and one manager with 1 year experience in the field of civil engineering, are the most and least experienced managers in the field, respectively. The average work experience of PMs in project management and subway construction projects is about 6 years and a standard deviation of this variable is approximately 3.2 years. Most managers have 6 to 9 years work experience.

DISCUSSION

EFFECT OF PERSONAL CHARACTERISTICS ON MANAGERS' SUCCESS

Given the amount of the p-value from non-parametric Kruskal-Wallis test results we can concluded that, among the factors to consider, only the PMs' experience in the field of civil engineering has an
impact on their success rate as shown in Table 2

**Table 2.** The values obtained by the Kruskal-Wallis one-way analysis of variance p-value at a significance level of 0.05

<table>
<thead>
<tr>
<th>Factor</th>
<th>Null hypothesis</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM’s educations does not affect success</td>
<td></td>
<td>0.719</td>
</tr>
<tr>
<td>PM’s age does not affect success</td>
<td></td>
<td>0.983</td>
</tr>
<tr>
<td>PM’s civil engineering experience does not affect success</td>
<td>*</td>
<td>0.016</td>
</tr>
<tr>
<td>PM’s experience in subway projects does not affect success</td>
<td></td>
<td>0.928</td>
</tr>
</tbody>
</table>

**EFFECTIVE KPIS IN PROJECT MANAGERS' SUCCESS**

According to the questionnaire, each of the functional factors is the outcome of 3 interrelated questions. So if each of the questions is related to any indicator, it can affect the success of the project managers (figure 2).

According to the values obtained from the tests, and comparison with a significance level of 0.1, some of the null hypotheses of questions are rejected, and others accepted. Thus, since the P-Value of functional factors of 10, 11, 13, 14, 16 and 17 are less than 0.1, it can be concluded that the following factors have affected the success of the Tehran Metro construction PMs (table 3):

- Adequate and timely distribution of information among stakeholders
- Determining communication channel before starting the projects
- Developing appropriate contracts
- Developing a precise SOW
- Staff training, if needed
- Continuous evaluation of staff performance

**Table 3.** Key performance indicators used in the questionnaire
PM'S PERFORMANCE EVALUATION FRAMEWORK

Finally, an attempt has been made to use the foregoing information to provide a system for evaluating the performance of subway construction PMs. As noted above, performance appraisal systems are usually developed for a particular organization with a specific organizational culture using the expertise of professional’s over several years.

The present system is an operational framework as shown in Figure 3.

**Step 1**: The PM performance data enters the system and is processed using various tools, techniques, such as expert judgment and key performance indicators.

**Step 2**: Performance is examined using the KPIs that have already been extracted. The three indicators for human resources management, communication management and procurement management are the main factors in the statistical analysis that show the greatest impact on whether PMs are successful.

**Criterion (1)**: According to experts, if PM performance shows a score of more than 3 in the second step, then this criterion is fulfilled.

**Step 3**: At this stage, the performance of the PM is evaluated and should be reported. Corrective action should be done if required.

<table>
<thead>
<tr>
<th>Key Indicator</th>
<th>Performance</th>
<th>Weight</th>
<th>Number</th>
<th>Null Hypothesis (No effect on success)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Management</td>
<td>10</td>
<td>1</td>
<td>• Use of scientific methods (i.e. CPM)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>2</td>
<td>• Updating the schedule and other documents</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>3</td>
<td>• Control schedule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>4</td>
<td>• Use of standard methods for cost management</td>
<td></td>
</tr>
<tr>
<td>Cost Management</td>
<td>8</td>
<td>5</td>
<td>• Use of previous information and documents for cost management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>6</td>
<td>• Using scientific methods to control costs</td>
<td></td>
</tr>
<tr>
<td>Quality Management</td>
<td>6</td>
<td>7</td>
<td>• Implementing quality management plan</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>8</td>
<td>• Quality control of materials</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>9</td>
<td>• Quality Assurance</td>
<td></td>
</tr>
<tr>
<td>Communication Management</td>
<td>8</td>
<td>11</td>
<td>• Adequate and timely distribution of information among stakeholders</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>12</td>
<td>• Determining communication channel before starting the projects</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Meetings and correspondence effectively to resolve conflicts</td>
<td></td>
</tr>
<tr>
<td>Procurement Management</td>
<td>8</td>
<td>13</td>
<td>• Developing appropriate contracts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>14</td>
<td>• Developing a precise SOW</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>15</td>
<td>• Developing an useful source selection criteria</td>
<td></td>
</tr>
<tr>
<td>HR Management</td>
<td>7</td>
<td>16</td>
<td>• Staff training if needed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>17</td>
<td>• Continuous evaluation of staff performance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>18</td>
<td>• Written notification of the duties, responsibilities and roles</td>
<td></td>
</tr>
</tbody>
</table>
Finally, it can be stated that the subway construction PMs studied can improve their performance by focusing more on human resource, communication, and procurement management and increase the chances of project success. These three factors can be very helpful making success in subway construction projects.

**CONCLUSION**

Performance evaluation is one of the most important aspects of project management and Identification of the key performance indicators that affect the success of PM can lead to success of the project. Statistical analysis of the success factors and use of key performance indicators has revealed that 3 of the indicators have the greatest impact on PM success. These indicators include: human resource management, communication management and procurement management. This suggests that PMs who work in Tehran Metro construction projects, and have been successful in managing projects have taken more account of these performance indicators than other factors. This suggests that certain factors could pave the way to success for a project manager, such as use of a suitable contract when selecting vendors, developing a precise SOW and workable source selection criteria, training and appraisal of the staff, use of written job descriptions, adequate and timely distribution of information among stakeholders, determining communication channels before starting the project, and holding meetings and correspondence effectively to resolve conflicts.

Finally, future evaluation systems need to be more comprehensive in view of the need for success in construction projects, since the city of Tehran is growing dramatically.

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EFFECTIVENESS OF ACCEPTANCE AND COMMITMENT THERAPY (ACT) ON DYSFUNCTIONAL COMMUNICATIVE ATTITUDE (DCA) OF COUPLES SUFFERING DIABETES IN BANDAR ABBAS

Azita Amirfakhraei
Ph.D Student of Health Psychology, Department of Psychology, Kish International Branch, Islamic Azad University, Kish Island, Iran

Hassan Ahadi
Professor, Department of Psychology, Allameh Tabatabai University, Tehran, Iran

Adis Keraskian
Assistant Professor, Department of Psychology, Karaj Branch, Islamic Azad University, Karaj, Iran

Javad Khalatbare
Associate Professor, Department of Psychology, Tonekabon Branch, Islamic Azad University, Tonekabon, Iran

ABSTRACT
Introduction: This study aimed to examine the effectiveness of ACT on the DCA of couples suffering diabetes in Bandar Abbas.

Methods: This is applied in terms of purpose and regarding the method, it is quasi-experimental done by Solomon Four-Group design. The population of this study is all diabetic patients of Bandar Abbas, to select the sample, first notes of holding training sessions related to this study in counseling centers, other related institutes in Bandar Abbas were hung, and the candidates were registered. Then, based on entry criteria (including a definite diagnosis of diabetes by a physician, diabetes type 2, being married, and the age range of 20-50 years), 80 volunteers to participate in the workshop, were randomly divided into six groups of experiment and control this means for each intervention 20 patients and in the control group 20 patients were assigned randomly. Data were collected through relationships beliefs questionnaire (RBQ; Romance & Deboard, 1995). The experimental group received 8 sessions (1.5 hour) of couple therapy.

Results: The results showed that ACT affects DCA of the couples (P<0.001, F=33.95).

Conclusion: ACT significantly improves couple's communication attitudes and sexual satisfaction of the diabetes patients.

Keywords: Acceptance and Commitment Therapy Introduction, dysfunctional communicative attitude

INTRODUCTION
Diabetes is the most common metabolic disorder and according to some people the most common endocrine disease (Anderewli, Greeks, Kolchak, Mine, 2012). The disease is of lasting illnesses caused by turbulence of starchy carbohydrate metabolism (Jamshidi, 2012). This disease like any other chronic disease makes problems for the patients and affects all aspects of a person's life. The person with diabetes has psychological and social problems due to dietary restrictions that cause health complications such as kidney problems, eye, heart, brain, and sexual disorders. One of the major complications of diabetes is problems associated with wife (Najafi et al., 2006) and can be so severe that lead to depression and anxiety in patients with diabetes (Sousa et al., 2004). Some disturbances such as sexual dysfunction (Tavalaeet al., 2010), low quality of life (Monjamed et al., 2006), anxiety and depression (Befroui et al., 2014) are common in diabetics. Recent studies have shown that both intrapersonal factors including personal characteristics, feedback, beliefs, values and expectations and interpersonal issues such as love,
intimacy, commitment, emotion and sexuality, communication patterns and family issues affect marital satisfaction. Thus, the existence of the chronic illness diabetes in one spouse, due to creating sexual dysfunction, causes marital boredom, affects DCA, and ultimately lack of marital satisfaction (Asadi et al., 2013).

Today, different approaches of couples therapy and family therapy have been developed aimed at reducing conflicts and confusion in communication between couples. The aim of couple therapy is to help the couples to better cope with the current problems and learning more effective communication methods (Davarniya et al., 2015).

Dysfunctional marriage attitudes are documentary styles, couples understanding from each other and the family environment that may cause seriously damage relations of the family (Yonsei and Bahrami, 2008).

One of the third wave approaches is behavior therapy that includes hybrid methods of metaphor, paradox skills, and mental focus on psychological interventions. Its theoretical framework is cognitive-intellectual theory and includes the process of acceptance and commitment and psychological flexibility behavior change (Honarparvaran, 2012).

Greg, Kalaghan, and Hayes (2007) performed a study on diabetic patients and it was shown that the use of acceptance and understanding skills (Intelligence) is effective in controlling the negative thoughts and feelings related to diabetes.

Alamdari (2013) determined the effectiveness of ACT on marital satisfaction and quality of life of infertile couples. The results of multivariate analysis of variance (MANOVA) showed that ACT affects marital satisfaction and quality of life (P <0.001).

These results indicate that ACT can moderate some problems of infertile couples. In fact, this training in infertile group focuses on experiential avoidance and acceptance through training essential skills such as mindfulness.

Heydariyanfar (2013) studied the effectiveness of ACT in reducing psychological distress, interpersonal distress and the acceptance and practice of mindfulness, quality of marital couple's communication dysfunctional attitudes in Dezful. The study population included all the couples in clinic Psychological Education Department in 2013 in Dezful. The results showed that ACT has a positive impact on all the variables studied, and this impact is more on variables of psychological distress, interpersonal, adopt, and practice.

Greg, Kalaghan and Hayes (2007) assessed the efficacy of ACT in increasing the quality of life and life satisfaction and DCA of cancer patients, and the results of their study showed that post-test scores had a significant reduction in signs of psychological problems.

Karkol and Constantino (2010) in a study concluded that people who have cancer, before participating in ACT choose strict procedures ways of dealing with the problem, while after attending ACT, they dealt with difficulties and disabilities caused by cancer flexibly and with mind-consciousness.

In a study by Masuda, et al (2009), the relationship between psychiatric flexibility and mental health in ACT showed that improving in the mental health of participants in the intervention and follow-up groups.

Longmore and Worr (2007), in separate studies of evaluating the efficacy of ACT in Generalized Anxiety Disorder concluded that ACT is effective for treating this disorder.

Block (2002) showed that the use of mindfulness methods as its basic element like ACT is effective for the treatment of anxiety disorders.
Zettle and Hayes (1986) in a study about the efficiency of ACT in reducing depression have shown that people who were treated with ACT showed significant decrease in depressive symptoms compared to the control group.

Education based on acceptance and commitment is efficient in improving DCA of diabetic couples.

**METHODS AND RESEARCH TYPE**

The present study is an experimental research conducted with the aim of showing solution-based training efficiency in marital satisfaction and attitudes of couples suffering diabetes. This was a quasi-experimental study (of Solomon four groups design).

The population of this study is all diabetic patients of Bandar Abbas, to select the sample, first notes of holding training sessions related to this study in counseling centers, other related institutes in Bandar Abbas were hung, and the candidates were registered.

**The sample size and method of measurement:** After selecting people based on entry criteria (including a definite diagnosis of diabetes by a physician, diabetes type 2, being married, and the age range of 20-50 years), 80 volunteers to participate in the workshop, were randomly divided into six groups of experiment and control this means for each intervention 20 patients and in the control group 20 patients were assigned randomly. The experimental and control groups took pretest before the intervention of couples' marital satisfaction and dysfunctional attitudes and approaches to carry out the intervention sessions for each group based on the post-test was performed after the meetings.

**Research Tools:** Relationships beliefs questionnaire (Romance & Deboard, 1995) RBQ is one of the relatively widely used scales to measure thoughts and irrational beliefs and dysfunctional marital relationship that is developed to understand the relationships of couples, the place of cognitive mediation in emotional reactions and behavior of couples in marital relations and also to understand the nature and meaning of their interactions. Several studies (Romance Debord, 1995; Debord and others, 1996) conducted to assess the validity of RBQ especially through factor analysis showed that the scale has nine factors. 1) totally honest and tolerance for each other at all times, 2) read the thoughts of each other, 3) do everything together, 4) satisfying all the needs, 5) the ability and willingness to change ourselves for another, 6) everything's being perfect within the marriage, 7) ease of maintaining good marital relations, 8) perfect romantic relationships, and 9) romanticism. Results of the validation of agents extracted from RBC scale, in the study by Azkhosh and Askari (2007) for test-retest reliability, internal consistency with one month distance were 0.945 and 0.925 respectively. The results show that the set of scale has proper accuracy, reliability, repeatability, and reliability. This is such that we can trust the results from measuring the effectiveness of the results of its interventions and counseling, as well as future studies and research in related areas. RBQ correlation with Jones Irrational Beliefs Test (1968) confirmed its convergent validity (r=0.32, P>0.001). The content structure of this factors substantially aligned with Alice's theory (1991, 2001).

**FINDINGS**

Frequency distribution and percentage of the sample group in terms of demographic characteristics are reported in Table 1.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Percent</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Man</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>Female</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>Married for 5 years</td>
<td>0.10</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 1. The demographic characteristics of subjects
Statistical Inference of Data: Before testing research hypotheses the sameness of the two experimental groups and reliability of the tests used in this study present and normal distribution of data were examined. For comparison, the average duration of marriage and age of four categories each of the treatments, ANOVA test was used. Results are reported in tables 2 and 3.

**Table 2:** Summary of analysis of variance to compare the duration of marriage

<table>
<thead>
<tr>
<th>Source of changes</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT Intergroup</td>
<td>28.250</td>
<td>3</td>
<td>9.417</td>
<td>0.856</td>
<td>0.468</td>
</tr>
<tr>
<td>ACT Intragroup</td>
<td>836.500</td>
<td>76</td>
<td>11.007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACT Total</td>
<td>864.750</td>
<td>79</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 3:** Summary analysis of variance to compare age

<table>
<thead>
<tr>
<th>Mean Square</th>
<th>Degrees of freedom</th>
<th>Sum of squares</th>
<th>Source of changes</th>
<th>Significance level</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>11.779</td>
<td>3</td>
<td>35.337</td>
<td>Intergroup</td>
<td>0.412</td>
</tr>
<tr>
<td></td>
<td>12.165</td>
<td>76</td>
<td>924.550</td>
<td>Intragroup</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>79</td>
<td>959.878</td>
<td>Total</td>
<td>0.412</td>
</tr>
</tbody>
</table>

Given that the F index calculated (in both variables in all three studies) is smaller than critical index F0.05 with the stated degree of freedom so with 95 percent confidence the null hypothesis stating the equality of average duration of marriage and age of the subjects in four research groups in all three studies is confirmed.

**Research result:** In solutions based on subgroups of gender, duration of marriage and age are homogeneous. Given that the validity of the test is dependent on the sample, before data analysis and hypothesis testing, to ensure the accuracy of the results, internal consistency of the test used in the study was estimated using Cronbach's alpha coefficient. The results of these indicies are reported in Table 4.
Table 4. The internal consistency of the instruments used in this study (20 = n)\(^1\)

<table>
<thead>
<tr>
<th>Dysfunctional communication attitude questionnaire</th>
<th>Average (Z Fisher)</th>
<th>ACT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.977</td>
<td>0.957</td>
</tr>
</tbody>
</table>

The above results indicate the validity and acceptable internal consistency to use this research tool in the community and sample to measure the relevant variables.

Kolmogorov-Smirnov test shows the normal distribution of research data. The results are reported in Table 5 separately related to marital satisfaction and DCA.

Table 5: Results Kolmogorov-Smirnov test to study the normality of DCA data

<table>
<thead>
<tr>
<th>Group</th>
<th>Running time</th>
<th>Average</th>
<th>The standard deviation</th>
<th>Z Index (Significance level)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test - post-test and treat (n=20)</td>
<td>pre-test</td>
<td>90.70</td>
<td>16.61</td>
<td>0.409 (0.996)</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>182.08</td>
<td>13.97</td>
<td>0.524 (0.947)</td>
</tr>
<tr>
<td>Pre-test - post-test and treat (n=20)</td>
<td>post-test</td>
<td>112.90</td>
<td>6.26</td>
<td>0.923 (0.362)</td>
</tr>
<tr>
<td>Post-test with treatment (n=20)</td>
<td>pre-test</td>
<td>110.18</td>
<td>5.73</td>
<td>1.006 (0.264)</td>
</tr>
<tr>
<td></td>
<td>Post-test</td>
<td>184.80</td>
<td>8.97</td>
<td>0.408 (0.996)</td>
</tr>
<tr>
<td>Post-test with treatment (20=n)</td>
<td>post-test</td>
<td>68.43</td>
<td>14.42</td>
<td>1.184 (0.121)</td>
</tr>
</tbody>
</table>

Given that significance level of z index calculated (in both variables in the triple therapy group, four groups and two runs times) is larger than 0.05, so the null hypothesis of no difference of data distribution with normal distribution is confirmed with 95% level of confidence.

Research result: data distribution is a normal distribution

\(^1\)The fourth group study to assess the reliability data (post-test without treatment) is intended to be independent of the effect of pre-test results and treatment.
Table 6. Summary of two-way univariate analysis of variance [Based on acceptance and commitment - DCA]

<table>
<thead>
<tr>
<th>Sources of Change</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>Mean Square</th>
<th>F</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Partial eta squared $\eta^2$</td>
</tr>
<tr>
<td>The corrected pattern</td>
<td>194742.259</td>
<td>3</td>
<td>64914.086</td>
<td>502.871</td>
<td></td>
</tr>
<tr>
<td>Width from origin</td>
<td>1487714.878</td>
<td>1</td>
<td>1487714.878</td>
<td>11524.500</td>
<td></td>
</tr>
<tr>
<td>Treatment (test / control)</td>
<td>177237.378</td>
<td>1</td>
<td>177237.378</td>
<td>**1373.007</td>
<td>0.948</td>
</tr>
<tr>
<td>Pre-test (with pre-test / without post-test)</td>
<td>7614.753</td>
<td>1</td>
<td>7614.753</td>
<td>**58.858</td>
<td>0.437</td>
</tr>
<tr>
<td>Interaction between treatment and pre-test</td>
<td>9890.128</td>
<td>1</td>
<td>9890.128</td>
<td>**76.616</td>
<td>0.502</td>
</tr>
<tr>
<td>Error</td>
<td>9810.612</td>
<td>76</td>
<td>129.087</td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>1692267.70</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total corrected</td>
<td>204552.872</td>
<td>79</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** $P<0.01$

**Interaction between treatment and pre-test:** Given that the F indicator calculated (76.616) is larger than $F_{0.01}$ with degrees of freedom 76 and 1 (6.96), so the null hypothesis of equality of means with 99% confidence is rejected. In other words, the average post-test score of DCA in four groups of ACT have significant difference with each other.

Table 7. The results of two independent groups [based on acceptance and commitment - DCA]

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Mean</th>
<th>SD</th>
<th>Variances sameness test</th>
<th>Test of average of two independent groups</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>F</td>
<td>Mean difference</td>
</tr>
<tr>
<td>With pre-test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experiment</td>
<td>20</td>
<td>155.30</td>
<td>5.40</td>
<td>0.543</td>
</tr>
<tr>
<td>Control</td>
<td>20</td>
<td>126.70</td>
<td>4.29</td>
<td></td>
</tr>
<tr>
<td>Without pre-test</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experiment</td>
<td>20</td>
<td>184.80</td>
<td>8.97</td>
<td>1.020</td>
</tr>
<tr>
<td>Control</td>
<td>20</td>
<td>68.43</td>
<td>14.42</td>
<td></td>
</tr>
</tbody>
</table>

** $P<0.01$

• **With pre-test:** Given that the t indicator calculated (18.539) is larger than $t_{0.01}$ with 38 degrees of freedom in one range test (2.423), so the null hypothesis of equality of means of DCA in post-test with two groups that have pre-test is rejected with 99% confidence. In other words, DCA mean of the group that received ACT (155.30) was significantly higher than the group that did not receive ACT (126.70).

**Without pre-test:** Given that the t indicator calculated (30.646) is larger than $t_{0.01}$ with 38 degrees of freedom in one range test (2.423), so the null hypothesis of equality of means of DCA in post-test with two groups that have pre-test is rejected with 99% confidence. In other words, DCA mean of the group that received ACT (184.80) was significantly higher than the group that did not receive ACT (68.43).

**Research results:** ACT approach is effective in reduction of diabetic couples DCA.
CONCLUSION
The present study was conducted with the aim of examining the effectiveness of DCA of couples suffering diabetes in Bandar Abbas.

Hypothesis: ACT is effective in reducing DCA of diabetic couples. The mean of DCA of the group that received ACT (178.63) was significantly higher than the group that did not receive treatment (78.53) and this is consistent with the results of Honarparvar et al (2010) Heydariyanfar (2013) Alamdari (2013) Greg, Kalaghan and Hayes (2007) Karkla, and Konstantino (2010) Masuda et al (2009) Longmore and Worl (2007) Block (2002) and Zettle and Hayes (1986). In explaining the effect of ACT on DCA, it can be said that ACT is creating mental flexibility, i.e. the ability to create a practical choice among different options that are more appropriate, rather than merely to avoid thoughts, feelings, memories and agitating desires that are imposed on the person (Izadi and Abedi, 2013). In this treatment, at first, it is tried to increase mental acceptance of the person about subjective experiences (thoughts, feelings and...) and decrease ineffective control actions.

In addition, patients are taught that any action to prevent or control these mental experiences are ineffective or counterproductive and exacerbate it, and that these experience should be accepted with no internal or external reaction to remove them. In the second step, for Psychological awareness the person is added at the moment i.e. he becomes aware of all mental states, thoughts and behavior at present.

In the second stage, the persons are taught to separate themselves from the subjective experiences (cognitive isolation) to act independently of the experiences. Fourth, efforts to reduce excessive focus on self-objectification or personal story as a victim that person has made for himself in his mind and fifth, helping the persons to know themselves and clearly make it known values and convert them to special behavioral goals (specifying values). Finally, it is creating motivation to act responsibly towards specified goals and values of activities with the adoption of subjective experience. These subjective experiences can be depressing thoughts, obsessive thoughts related to events (trauma), social anxieties and phobias, and so on.

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PRINCIPLES OF SUSTAINABLE ARCHITECTURE DESIGN IN CROWDED RESIDENTIAL COMPLEXES WITH AN OUTLOOK TO RESUSCITATION OF NATURE IN ARCHITECTURE

Kiana Mohammadi
M.Sc.Architecture, Department of Architecture, Central Tehran Branch Faculty, Islamic Azad University, Tehran, Iran

Hooman Sobouti
Assistant Professor, Department of Architecture, Zanjan Branch, Islamic Azad University, Zanjan, Iran and Young Researchers and Elite Club, Zanjan Branch, Islamic Azad University, Zanjan, Iran

ABSTRACT
Issue of sustainable development has been introduced as one of the most common and important issues throughout the world, turned to an important issue in all the specialized fields and encompassed economic, social, cultural and other aspects of human life. Sustainable development refers to a process during which the people of a country meet their needs and improve their life regardless of consuming the resources which belong to next generations. A growing world population has an adverse effect on the earth's natural settlements and urban sprawl has led to irresponsible consumption of energy, the gradual warming of the planet and the increase in environmental pollution. Yet, a high amount of energy loss derives from non-standard methods of buildings for heating and cooling and inconsistency with climatic conditions. Therefore, sustainable development and applied concepts for sustainable development have been consistent with aims and intentions of modern architecture, proposed as an effective factor to achieve aims of sustainability. This research is a qualitative study conducted via descriptive-analytical method. In this research, library sources have been used to examine principles of sustainable architecture design in crowded residential complexes with an outlook to resuscitation of nature in architecture.

Keywords: sustainable architecture, nature in architecture, green roof, green residential complex

INTRODUCTION
Environmental degradation through increased energy consumption in the world, destruction of forests and meadows and species extinction occurs in case it is discussed on sustainability of environment in most of the international societies throughout the world. After the Industrial Revolution, use of natural resources around the world was made with the purpose of economic exploitation and industrial development was formed, such that the man and nature turned to the victim of the hasty movement to industrial growth. This goes with this view that it has already pursued the economic growth when it has found the economic power as sufficed, then environmental problems have been discussed and their losses will be compensated. Yet, after industrial revolution, the scholars perceived that if these events continue and the industrial growth is pursued, many materials and aims of human societies will be threatened, of which it can refer to the environment so that most of developing and developed societies face it today. This refers to an outlook which has been being proposed as one of the justifications for economic process and industrial development, yet they perceived that compensation is an imaginary discussion regarding type of exploitation from natural resources and type of pollutions appeared in the environment. These pollutions raise problems for developing and developed countries from different aspects such as Cultural and social
problems and crises from them and the environmental problems such as global warming, the hole in the ozone layer, acid rain and so forth.

THEORETICAL BACKGROUND

SUSTAINABLE ARCHITECTURE

The use of the concepts of sustainability and goals of sustainable development to reduce energy loss and environmental pollution in architecture has raised an issue called sustainable architecture. In this architecture, the building has not just adapted itself with the climatic conditions of the region, but also has made a mutual relationship with the region, so that buildings are assumed as the birds which adapt themselves with new conditions in the environment and regulate their metabolism. The sustainable architecture which has been assumed as the subset of the sustainable design can be considered as one of the important contemporary events, accounted as a logical reaction to the problems in the industry age. For instance, 50% of fuel reserves are consumed in the buildings which this will result in environmental crises, thus the necessity to create and develop issue of sustainability in the architecture can be properly witnessed. Sustainable architecture like other issues of architecture has specific principles and rules, encompasses the stages below:

- Savings of energy
- Design to return to the life cycle
- Design for humans

Each stage above has their specific strategies (Herdeg, 2011). Recognition and study of these implications induce the architect to deeper understanding of the environment that must be designed.

Sustainable energies

Sustainable energy implies constant supply of energy to meet the needs without jeopardizing the ability of future generations to meet their needs. The technologies which contribute in sustainable energy include renewable energy resources such as hydropower, solar energy, wind energy, geothermal energy, wave energy and artificial photosynthesis as well as the technologies which have been designed to improve energy efficiency. Therefore, Twin Pillars of Sustainable Energy include energy efficiency and renewable energy. It must differentiate the term “sustainable energy” from other terms in this context such as alternative energy, because sustainable energy puts emphasis on the ability of energy source in providing energy. Sustainable energy might raise environmental pollution to a relative extent, but amount of pollution is not relatively high to prohibit large use of it as a source in an infinite time (Moradi, 2010). Sustainable energy differs from low-carbon energy, because the term “low-carbon energy” is sustainable from this perspective that it does not add carbon dioxide to the atmosphere. Green energy is another term at this area. Green energy refers to an energy that can be extracted, produced or consumed without impact on the environment. Our planet has a natural capacity to recover, thus the energy that the pollution from it does not exceed from the limit of this ability may be called green (Moradi, 2011). Green energy refers to a sub-set of the renewable energies, indicating those renewable energy resources that raise the most environmental benefits. Endless energy is called infinite energy and eternal energy. Renewable energy has been regarded as the endless energy which is infinite and eternal; the technologies used for this purpose includes energy, wind energy, wave energy, geothermal energy, tidal energy, ethanol bio fuel, hydrogen and hydroelectric power (Vahedi, 2013).

GREEN ARCHITECTURE

Green architecture has been introduced as one of the most important modern architecture styles which encompass various environmental, climatic, social and economic aims. Use of this architecture can cause
saving of energy, creation of vitality among people and stylized space. The green architecture has various elements including green roofs, green walls, use of wind turbines, solar cells and so forth (Oveisi, 2009). Green architecture has arisen from sustainable architecture and sustainable development which this has arisen from need of the man against adverse outcomes of the industrial and consuming world at the current age. Protection from the world's natural resources, protection from pollution and other environmental pollutions, protection from ozone layer, physical and mental health, the future of humanity and so forth have been regarded as the issues proposed in this context, i.e. their necessity reveals as a global duty.

THE METHOD TO USE NATURE AND GREEN ARCHITECTURE IN RESIDENTIAL COMPLEXES

Any green building requires a creator before being created, that is, creation of a green building assists for the health of an individual who lives in it and the surrounding environment, supports him and causes satisfaction and utility for him. This requires use of the strategies confirmed in the architecture; some of these strategies are mentioned as follow:

- Use of natural energy in everyday consumption
- Stability of the indoor status
- Use of waste and effluent water for irrigation of green spaces
- Use of appropriate methods to reduce wasted energy and optimize energy consumption
- Attention to climatic characteristics of the region
- Avoidance from damage to land status for more benefit
- Reaching to the highest quality of life in the light of reliance on environment
- How to use land
- Attention to ecology of region
- Use of non-chemical recyclable materials and the materials which do not damage to human health
- Design through the materials close to the nature
- Use of natural plants for inspiring the living design

REDUCTION OF FUEL CONSUMPTION USING GREEN RESIDENTIAL COMPLEXES

THE COLOR OF WALL IN GREEN BUILDINGS

There is a mutual relationship between color of wall surfaces and the extent to which the solar energy is received. Using various colors at exterior surfaces of the walls in the building, it can control thermal impacts of sunlight in indoors. Light colors might reflect 85% of the solar energy, yet reflection feature of dark colors is about 15% or less (Setyowati, 2013).

WALL INSULATION IN GREEN BUILDINGS

Energy due to lack of suitable thermal insulation in the building is wasted through all the surrounding surfaces of building including walls, ceilings and the floors that connect to the uncontrolled space or controlled space inside the building; thus compliance with thermal insulation in design and implementation of buildings reduces needing to heating and cooling and avoids loss of heat and cool, causing substantial saving of energy consumption (Emilsson, 2007). Major types of existing insulation in Iran include Rockwool, Glass wool, Nitrile Rubber, Ceramic Wool, Polyurethane foam, Mineral Wool, Ceramic Wool, etc. in selection of thermal insulation for the walls and ceilings, the resistance of
insulation against heath and forces, behavior against fire and water absorption must be taken into consideration.

**TWO-SHELLED FAÇADE FOR ENERGY OPTIMIZATION**

The words which are taken as synonyms for two-shelled façade are as follow:

Two-sheet facades, two-shelled facades, dual facades, double facades, two-walled glass facades, and ventilation façade. With regard to the definition, it can define two-shelled facades as follow: “Essentially a pair of glass “skins” separated by an air corridor. The main layer of glass is usually insulating. The air space between the layers of glass acts as insulation against temperature extremes, winds, and sound. Sun-shading devices are often located between the two skins. All elements can be arranged differently into numbers of permutations and combinations of both solid and diaphanous membranes.

**UNDERGROUND HEAT EXCHANGER IN GREEN BUILDINGS**

To reduce energy consumption in the buildings, the amount of air exchange heat through leakage from thermal shells of buildings must be reduced to a minimum extent. In airtight buildings, a mechanical ventilation system must be inevitably used to supply fresh air required for the residents. A mechanical ventilation system not just paves the way to use an air/air heat exchanger to recycle exhaust-air energy but also paves the way for use of an underground thermal exchanger to save energy and increase yield of building in terms of energy. Yet, use of underground heat exchangers is not limited only to houses with mechanical ventilation systems, but they can also be used in buildings with air heating system. The temperature of ground depth in winter is more than the temperature of outdoor air, yet it is less than temperature of outdoor air in summer. This difference of temperature can be used to preheat the cold indoor weather in winter and precool the hot indoor weather in summer and provide heat and comfort conditions without consumption of energy. Therefore, use of underground exchangers which enter the fresh outdoor air into the building is a way to reduce energy consumption in the buildings. Underground heat exchanger is called to the air canals which are located in underground and enter the fresh air into the building after passing through it. The temperature of air passing through the underground tubes changes through energy exchange with ground and enters to the building with a temperature closer than the outdoor temperature (Bradley,2010). Length and diameter of the underground heat exchanger tubes depends on the building size in which the exchanger is used and the amount of required energy. For instance, an underground heat exchanger in a small residential building can have a diameter about 20 cm and a length about 40 m. in the underground heat exchangers in small buildings, the cold outdoor air is sucked into a tube which is located at the depth of 1 meter beneath the building, whereby the temperature of cold outdoor air increases to a large extent at the coldest winter days before entering into the building. In summer, the hot outdoor air reduces to a large extent by passing through the mentioned system before entering into the building (Aben, 2012). Various factors affect amount of energy exchange between ground and the air passing through the thermal exchanger and as the result amount of energy saving. Soil type , soil density , heat capacity and heat transfer coefficient of soil , soil annual temperature difference, the distance of exchanger to adjacent buildings, groundwater levels , fluctuations in the amount of air required for ventilation and air exchange , outdoor temperature and factors relating to the underground heat exchanger such as the number of converter pipes, length of pipes , diameter of pipes , the distance between the pipes and the depth of the pipes have been mentioned as the factors which affect amount of energy exchange in this exchanger and energy saving.

**GREEN ROOF**

A green roof refers to a roof covered in total or part via vegetation and soil or growing medium. The term “green roof” can be considered for the roofs which consider the concepts of green architecture such as solar panels and/or photovoltaic panels.

Advantages of green roofs in residential complexes
-provide a favorable space for the users of building due to embedding yard and patio
-the possibility to grow fruits, vegetables and flowers

- Reducing heating load (by adding mass and thermal insulation layer) and cooling the building (through evaporative cooling)-especially if it acts as a greenhouse or solar heating system

According to a research by Brad Bass (2005) from University of Toronto, the results indicated that green roofs can reduce the heat loss and energy consumption in winter to a large extent.

-reduction of heating impacts and urban climate changes
-increase of living area(green roofs can be used as the recreation and relaxation spaces)
-Reduce flooding
-Air purification and reduction in carbon dioxide in the air
- Reduce and regulate the intensity of the sounds to dB 18 that come into the building and come out to the dB3 or more
- Increase the habitat of animals in residential areas
-Improve scenery around the building by providing a beautiful green space
-increase lifetime of roof membrane by protecting from it against harmful UV rays and air and water damages

ROLE OF GREEN ROOF IN ENVIRONMENTAL SUSTAINABILITY OF RESIDENTIAL COMPLEXES: REDUCTION OF IMPACTS OF THERMAL ISLANDS

Large cities due to having extensive hard and impervious surfaces devoid of vegetation absorb the heat sunshine and act as thermal energy emitting sources. Such state is called heat island. In this state, there is a substantial temperature difference between urban areas that their surfaces have been covered with asphalt and asphalt shingles. The difference of heat island effect between city and suburb in summer can be up to 10 degrees Fahrenheit (Bass, 2007). In this case, the air cooling devices increase which this causes increase in amount of energy consumption and intensification of the phenomenon of greenhouse gases that destroy ozone layer. With regard to the report by United States Environmental Protection Agency, the city air temperature can become warmer than the suburbs to 6.5 cm (Tabrizi, 2011). Therefore, green roof can contribute against healthy environment.

CREATION OF GREEN NATURE IN RESIDENTIAL COMPLEXES AND REDUCTION OF AIR POLLUTION IN CITY

In urban areas, trees contribute in reducing air pollutants. Nevertheless, in most of urban sites, there is little space to plant tree which this is due to a series of impervious surfaces such as streets, parking lots, roofs and so forth. Plants absorb air pollutants through their pores and separate their particles with their leaves and enable to break the specific organic compounds such as polyaromatic hydrocarbons in plant tissues or in soil (Baker & Brooks, 2009). In addition, they indirectly reduce air pollution through reducing the surface temperature by means of cooling secretions and shade, causing decrease of photochemical reactions like ozone in the atmosphere (Bradley Rowe, 2010). Since a variety of plant species have different abilities to omit air pollutants and reduce greenhouse gases, it can select more effective species to maximize improvement of air quality. For instance, evergreen pines might have more benefits than deciduous trees, because they will enable to have a better role by maintaining annual leaves.

REDUCING CARBON DIOXIDE
The earth is warming caused by natural cycle and the burning of fossil fuels. The burning of fossil fuels releases carbon dioxide as a byproduct of combustion. Since carbon dioxide is one of the atmosphere gases that prevents the transfer of thermal energy near ground surface to higher surfaces, it increases greenhouse effect as a confounding factor and increases the temperature of the environment. Green roofs can be effective in reducing carbon dioxide in two methods below:

1-carbon has been the main component in structure of plants, decomposed naturally in plant tissues through photosynthesis and in soil bed through root exudates of plants.

2-reduction of energy through insulating building and reducing urban heath island effect (Oraki Kuhshouri, 2011).

ROLE OF GREEN ROOF IN ECONOMIC SUSTAINABILITY
Concerning economic sustainability, it must pay a particular attention to the factors which cause saving of energy. Green roof can be used to save energy and avoid loss of resources. Two factors are of great importance in influence on sun ray which radiates on the surface of ceiling of buildings, i.e. the first is surface of branches and leaves of trees and the second is type and thickness of soil. The more diversity of branches and leaves, the heat pressure through ceiling to inside will be less and ultimately the temperature of ceiling temperature will be less. The more amount of soil thickness, it will act as a better insulator and cause lack of reaching warmth to the ceiling and cooling through evaporation. Further, Keep water from rainfall is also affected by factors such as slope and depth of layers of green roof (Oraki Kuhshouri, 2011). Green roof can store water and control floods. The more thickness of green roof, more moisture can remain. These cause reducing amount of economic costs to regulate weather inside the house and reducing loss of resources.

ENERGY CONSUMPTION AND GREEN ARCHITECTURE PATTERNS
What has proposed the green architecture as a novel attitude in construction is the need of today’s societies against adverse effects and industrial outcomes of the current age. Green architecture which has arisen from sustainable development refers to a phenomenon that paves the way for protection from natural resources, physical and mental health and creation of a suitable space regarding the optimal energy consumption. The world society lives beyond its facilities so that we are required continuing our life at this limited time and place through proper patterns so as not to jeopardize the ground capitals for the future generations. Design of architecture with green notion is a process to resolve the problems during which the natural resources are damaged the least; in the meantime, in addition to optimal use of resources and materials, longevity and return to nature cycle must be considered. Currently, it is the time that the resources are depleting, which this might be a concern for the architect, urban designers, urban planners, architects, engineers and experts so as to adapt the human sustainability with nature sustainability. Hence, the strategies which can be effective in the green architecture based on major factors in sustainability of development and city are as follows:

-the buildings must be designed and established in a way to provide access to public transport, Bicycle crossing path, access of the pedestrian to major services which this diminishes use of automobile.

-the buildings must be replaced in a way to exploit from the existing plants. Deciduous trees in south, east and west of building reduce the amount of cold in winter. Hedges and rows of bushes and shrubs can suppress the cold winter winds or transfer the summer cool breeze to the building.

-the building must be designed via self-sufficient energy

- Conjoined buildings minimize exterior cover costs of building

-wastes of construction materials must be reduced by design of standard height of ceilings and dimensions of building
-the local construction materials must be used; transport is of great importance in terms of environmental pollution and energy consumption

The factors contributing in design of green building

-establishment of buildings on the site including useful paths and accesses

-orientation of buildings regarding sun and surrounding environment

-arrangement of interior rooms, windows and doors

-dimensions and aspects of buildings and the environmental components

- Color, façade, decoration of buildings and environment

DESIGN OF GREEN HOUSES

-it is better to be smaller; use a good plan of interior spaces so that the total size of building and the used resources in maintaining the building are kept as less as possible.

-design sufficient energy; use insulation at high level and windows with high capability in direction with sunlight and the sealed structure.

    Free comfort, solar heat, daylight and natural cooling can be fitted with effective value in most buildings.

-grain free energy; design buildings with solar heater and electricity converter or solar facilities for future generations

-proper use of materials; reduce wastes through design for the standard height of ceilings and dimensions of building

-simplify the disposal of waste for the residents. Consider the trash bins near kitchen for the process of disposal of waste

- the systems for disposal of water in the roof can be considered to collect rain water and use of it in the irrigation

Green materials

-avoid using the chemical materials which destroy ozone in the mechanical equipment and insulators

-use of construction materials gained from the place; transport is of great importance in both energy consumption and public pollution.

-use Waste from construction materials or products obtained from materials that can return to the cycles of nature such as cellulose, plywood, brick floor carpets made of ground glass and use of recycled plastics in the form of lumber and flooring.

-search authentic wood products; use timber from controlled forests in which the trees are cut

-Avoid substances that are self-polluting gas: oil and solvent-based paints, adhesives, laminates, wood and many other materials and construction products release formaldehyde and volatile organic compounds VOC.

GREEN FACILITIES
Use of high-efficiency lighting and appliances; Fluorescent lamp is suitable from aesthetic perspective and it is cheaper than white light.

Use of water-sufficient water; Water Retention toilets, showers and bathrooms not only reduce water consumption but also reduce the load of septic system or sewer system performance. Equipment deployment reduces cost of hot water.

Executive instruction of green architecture for residential buildings - green land use to avoid energy consumption and reduce pollution

Keep constructing in developed regions; despite urban collapse, agriculture is maintained, whereby the public services and transport are provided.

-design multipurpose maps and projects in which the projects, residential and commercial uses are integrated to assist for creating living communities and reducing the largest pollution source which is used of automobile

-build the buildings in a way that access to public transport and access to major services are provided. This reduces use of automobile. Further, driving can reduce by working at home. Therefore, take this point into consideration that working at home requires telephone line.

-repair old buildings; repair of buildings is the most biological construction.

-the buildings must be built in a way to reduce their environment

-replace the buildings in a way to exploit from the existing plants

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ASSESS THE SITUATION IN THE FIELD OF MEDICAL TOURISM SERVICES FROM THE PERSPECTIVE OF EXPERTS ACTIVE IN THIS FIELD (CASE STUDY: ISFAHAN)

Mostafa Nariman
Tourism DBA Student Of Bahar Higher Education Institution

Mohammad Sharif Beheshti
Faculty member of Raghib Isfahani Higher Education Institute

ABSTRACT
Due to the importance resistance economy, or the economy without oil in Iran in recent years and the attention to tourism as a way of engaging, dynamic, profitable and effective in the world's major economies to using all the opportunities in this field and need to move Towardsto this strategy as a stable income, high-value and employment for treatment the growing economy of Iran, accurate identification of strengths, weaknesses, opportunities and threats investment in this field is inevitable. In different countries exploit all possible opportunities to attract tourists is done, one of these opportunities, use of local capacity in the health sector in order to attract tourists and this has beenhistorical cease-richas Ancient Egyptian brain surgery to treat various diseases in various countries from China to Iran, the Islamic-Iranian acupuncture medicine is that this self-importance and a new focus to this issue. The methodology this work is descriptive and analytical for health and tourism activities in the Isfahan in 2015 Among them, 158 were randomly selected and collected by questionnaire on their views in relation to security, between road services, nursing care, food, drug and climate quality, accommodation services, transport services, specialized services, advertisements, equipment, cost, and ease visa rules will be discussed with health tourism To evaluate the hypotheses use t-test. This study tries to investigate the situation in the field of medical tourism in different dimensions to offer strategies to increase the quality and quantity of income opportunities in this domain. Therefore, by using of Comments of activists in the field of tourism, particularly health tourism in this city the situation we analyzed in terms of strengths, weaknesses, opportunities and threats. Hypotheses indicate that you have in the way of service, accommodations, transportation, promotion and protection laws and facilitate effective activities to accomplish as loopholes so we can get enough of average standards. And also considering that in the field of professional services, infrastructure facilities and the cost of the program have an advantage we should provide maintain and improve the situation in these three areas This paper is a result of my research on the Compilation a new model knowledge to organize, attract and guide the medical tourism in Iran.

Keywords: health tourism, medical tourism, security, health professional services

INTRODUCTION
With respect to the use of new methods of knowledge based in attracting and hosting tourists and the importance of special tourism position in resistive economic, its importance in recent decades has been doubled Considering the geographical position of Iran in the region in terms of economic and political as well as having particular potential in tourism development especially health tourism with scientific and more accurate identification of effective factors In medical tourism, including safety, health and transportation services, nursing services, medical and professional services] .... Can provide a model based on the new knowledge-based methods as well as specific to increase foreign exchange earnings from this location.
THE IMPORTANCE AND NECESSITY OF RESEARCH
Changing economic position of Iran, based on a twenty-year vision and increase foreign exchange earnings from tourism in the amount of twenty billion dollars a year as a macro-economic objective in this area made us By examining the current situation and identify strengths and weaknesses, opportunities and threats present new solutions in this area, using the models in the world and create a good result towards this goal.

RESEARCH THEORY BASES
World Tourism Organization's definition of health tourism include: individuals and groups who use climate change with medical purposes, such as mineral water, recovery, treatment etc. to travel there. Of course there are other terms that define and expand the scope of this type of tourism, health tourism, is one of those words, which points to the tourists travel to villages and areas with mineral springs and health hot water. In this type of trip tourist escape from the stresses of everyday life and revitalizing, without medical intervention and monitoring goes on a journey. Usually these tourists do not have a specific physical illness and are looking to benefit from nature healing in other areas. Medical tourism is another word that means tourist travel to use natural therapeutic of tourism resources (mineral water, salt, mud, etc.) that takes place to treat certain diseases or recovery under the supervision and medical intervention. Medical tourism is another form of health tourism that aims to treat physical illness or a surgery under the supervision of doctors in hospitals and therapeutic centers. In this type of tourist health, after treatment the patient may require spaces and tourism services (like hot water) in which his travel tourism will be completed by traveling to areas with these facilities (KhosrowAbadi, Ghasem. 2012). Elsewhere in the definition of medical tourism argue that medical tourism is the tourism of the residence to the place where medical treatment or surgery performed or to be performed, provided that patient at least should stay one overnight in the place. Medical tourism is utilization from combining aspects of tourism with medical services that has become an important business. The major reasons that cause people to receive health care in their choice of international travel, including long waiting lists in developed countries, low cost medical treatment in developing countries, the cost-effectiveness of transport costs international traffic, development of the Internet and the emergence of international communications companies as intermediaries between international patients and hospital networks. Medical facilities: supplies, equipment and medical devices in general are called medical equipment includes any product, equipment, tools, materials, equipment, implants, materials, reagents, laboratory calibrators and software that are provided by manufacturer for man (alone or in combination with other related items) in order to access one of the following objectives: diagnosis, monitoring, prevention, treatment or alleviation of the disease or support the continuation of the process of life. Birth control and sterilization process creation (or disinfection and cleaning) equipment or environment favorable for medical treatment, health care .providing the information for medical purposes using laboratory methods on taken human samples. Diagnosis, monitoring, treatment, relief, compensation, or to postpone injury or disability. Research, investigation, replacement or modification of the anatomy or a physiological process. Advertising: In recent decades, touted as one of the most important tools for success has been suggested in the life of human societies, this tool should be studied carefully as a branch of scientific, social, cultural and scientific communication and with scientific, artistic and expertise look in various aspects of economic, political and cultural use to follow succeed and achieve the objectives of the activities) Dasul 2002) The original vision of promotional activities in the tourism industry is that this type of advertising is not expensive, but an investment to further organizational goals and national foundations And in case of proper implementation of the principles can have valuable achievements in different aspects of the tourism industry. In this regard, the purpose and function of advertising, increase the "marketing and market synergies" and any neglect and lack of proper utilization of these tools, not only caused the failure, but follow the backwardness of competition and overtaking tourism marketing and the failure and bankruptcy in the correct marketing world in the field of international) Ebrahim et al., 2010). Visa: Foreign nationals if they wish to visit monuments and tourist attractions or meeting friends or relatives and enter to the
another country must obtain a visa from the consular representatives of destination in outside that In this regard, laws, ease of download, the time and cost of obtaining a visa is different.

**THEORY AND LITERATURE**

Misbah and colleagues in their article as a model for designing logical data structure, of medical tourism information systems, as a tool for development of medical tourism states that medical tourism occurs when Individual decides to seek treatment travel across international borders. Patients who used to travel to developed countries in recent years are changing their directions toward developing countries. Commercialize medical tourism is heart of its development. In the meantime, the use of systems based on internet as a mechanism that gives customer information and has the ability to meet all his needs, including the introduction of services and access to them that has contributed to the development of medical tourism. In recent years can be seen that in addition to private organizations, governments systematically trying to attract medical tourists. In this article, we briefly review the performance of medical tourism internal and external web-based systems and evaluate the risks of medical tourism, present scenarios for medical tourism workflowin our country with a holistic and interactive approach between the different organizations and a rational structure-based this scenario relying on SSADM to design an information system of medical tourism. Mostafavi et al in their article as ethics in health tourism, expressed health tourism today is an important and growing phenomenon in the world. Iran since past has been a center of health tourism in the region. At the same time, concerns about the ethical aspects of health tourism in the world were existed. The article refers to the ethical issues raised on this issue, discussed moral status in the fields of medical tourism in Iran, including organ transplantation, therapeutic abortion and assisted reproductive technologies. To collect the data, databases, scientific and university system, the rules of parliament, newspaper articles and, Iranmedex, Magiran online news and web pages related to medical tourism in Iran were investigated. Our findings show that there are some possibilities and regulations in cases where increased willingness of citizens to travel to Iran and other countries, and receive health services, but codified ethics guidelines is not available hence proposed such guidelines to be complied. Saraei and colleagues in their paper titled Assessment of tourism in the city of Shiraz, toward sustainable development using SWOT suggests by starting industrial revolution and urbanization, incentive travel and entertainment to meet the needs of the human spirit became necessary, This important created a global phenomenon in recent decades, the term is called tourism industry. Arrivals of tourists in one place can leave economic, social and cultural effects on the environment and would cause the development of the region. This article examines the situation in Shiraz as one of the largest and richest cultural and historical centers in order to feasibility of tourism development for prosperity and sustainable development in all aspects of the region and the country. This study evaluated analysis of strengths, weaknesses, opportunities and threats in advance and weighting factors for SWOT and use appropriate strategy in tourism and strategies for development of tourism in Shiraz is presented. Results of this study suggest that the city of Shiraz due to position and outstanding works of historical, cultural, artistic and literary is located in an aggressive competitive position and has capability to become one of the largest tourist center on international level. And strategies for planning in this study could be useful and effective in Shiraz tourism development. Morovvatisharifabadi and colleagues in their article presented as a model for health tourism development with an integrated approach TOPSIS fuzzy interpretive structural modeling in Yazd province, says that among the various fields of tourism, health tourism because of the capability and competitive advantages is gaining attention. The aim of this study is to provide a comprehensive framework to identify and evaluate the direct and indirect effects of each of the factors influencing the development of health tourism industry in Yazd. Methods In this study, after reviewing the record and to identify factors affecting the development of health tourism, the most important factors were determined using fuzzy TOPSIS technique and in continue were categorized using interpretive structural modeling levels The results show that the update information hospital staff and relevant expertise of doctors with their tasks are the most important factors in the development of health tourism, and should primarily be focused on them. Using the findings of this research can be concluded that the health tourism and its development in Yazd
province requires serious determination to satisfy patients for examination or treatment referred to Yazd. This important will be possible through investment in equipment and updating hospitals and hospital staff skills development. Mortezza Izadi et al in their article as health tourism situation in Iran, opportunity or threat suggests that health tourism, covers any travel for health promotion and as one of the dimensions of tourism, helps sustainable development and dynamic economy. Also health tourism, a national strategy to increase revenue and an arm of national security. This study was performed with aim to evaluate the health tourism and the specific potentials of Iran. Sedaghati et al in their paper as tourism development strategic planning a way for economic development in cities - Nishapur as case study states that each region due to the potential and the existing facilities can be used in different ways in driven development and with the development of a sector also provide the development of other sectors. The first step is to develop the region is economic development. Due to main purpose of tourism that generate revenue and attract investment to the region, and a key and strategic role of tourism in the development of regional tourism is shown. In this paper, with an emphasis on tourist attractions of the city of Nishapur, efforts have been made through the planning strategies for tourism development in the region to the SWOT matrix and using the techniques of tourism development, economic development in Nishapur also be provided. The main findings of the research show that the definition of an interconnected network of tourist attractions of the city and strengthen this network node, sometimes, can be very effective strategies to meet the economic value of the project. So in order to the objective of such strategies in Nishapur and the emphasis on looking at the city in the city of Nishapur, the definition of first degree base station and three second degree base stations as well as several substations in each of the base stations, trying to create a network of interconnected and interacting and coordinating tourism in the city. Drawing this network in the city, have shown that this network has covered almost the entire area of the city well.

METHODS
The study is applied research and is as quantitative and qualitative. The required data via attribution - survey has been collected. The statistical society activists in the field of tourism - health in Isfahan in 1394 have been operating there and at tourist sites, recreational, security, services, health and welfare were served. Taking into account the population, the sample size was estimated to be 158Sampling of the population concerned, non-probability sampling (available), which is used to evaluate samples from the Cochran method and for analyzing the data, the average sample student t test has been exploited. To assess the reliability of the items, there are different methods. One of the most common and simplest methods to assess reliability, the Cronbach alpha coefficient. This method is known as one of the factors of reliability and dependability. Due to the alpha coefficient .0.945 show that (Table 1), the internal consistency of items is high. Also validity in terms of faculty of Social Sciences Institute of Higher Education of Raghbi Isfahani and the Institute of Higher Education of Bahar, they opinion results show.

Table 1

<table>
<thead>
<tr>
<th>Cronbach's alpha coefficients</th>
<th>The number of each item</th>
</tr>
</thead>
<tbody>
<tr>
<td>.954</td>
<td>58</td>
</tr>
</tbody>
</table>

In this context, to review the current status of risk factors in medical tourism we used a questionnaire with Likert 5-utilized and we've divided areas of research into eleven general area as the table 2.

<table>
<thead>
<tr>
<th>security</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services between the way</td>
</tr>
<tr>
<td>Ease visa receiving</td>
</tr>
<tr>
<td>Quality food, medicine, water and air</td>
</tr>
<tr>
<td>Lodging services</td>
</tr>
</tbody>
</table>
RESEARCH HYPOTHESIS

The first hypothesis
H0: Health tourism security in various aspects in Iran is not in good condition (intermediate)
H1: Health tourism security in various aspects in Iran is in good condition (intermediate)

The second hypothesis
H0: Services between the way in various aspects in Iran is not in good condition (intermediate)
H1: Services between the way in various aspects in Iran is in good condition (intermediate) the third hypothesis

The third hypothesis
H0: Ease visa receiving in various aspects in Iran is not in good condition (intermediate)
H1: Ease visa receiving in various aspects in Iran is in good condition (intermediate)

The fourth hypothesis
H0: Quality food, medicine, water and air in various aspects in Iran is not in good condition (intermediate)
H1: Quality food, medicine, water and air in various aspects in Iran is in good condition (intermediate)

The fifth hypothesis
H0: Lodging services in various aspects in Iran is not in good condition (intermediate)
H1: Lodging services in various aspects in Iran is in good condition (intermediate)

The sixth hypothesis
H0: Infrastructure facilities and medical equipment in various aspects in Iran is not in good condition (intermediate)
H1: Infrastructure facilities and medical equipment in various aspects in Iran is in good condition (intermediate)

The seventh hypothesis
H0: Tourism ads in various aspects in Iran is not in good condition (intermediate)
H1: Tourism ads in various aspects in Iran is in good condition (intermediate)

The eighth hypothesis
H0: Specialty-Medical Services in various aspects in Iran is not in good condition (intermediate)
H1: Specialty-Medical Services in various aspects in Iran is in good condition (intermediate)

The ninth hypothesis
H0: The cost of health tourism in various aspects in Iran is not in good condition (intermediate)
H1: The cost of health tourism in various aspects in Iran is in good condition (intermediate)

The tenth hypothesis
H0: Infrastructure facilities and medical equipment in various aspects in Iran is not in good condition (intermediate)
H1: Infrastructure facilities and medical equipment in various aspects in Iran is in good condition (intermediate)
The eleventh hypothesis
H0: Rules for investment support in the field of medical and health tourism to attract tourism to travel to Iran in various aspects in the world, is not in good condition (intermediate)
H1: Rules for investment support in the field of medical and health tourism to attract tourism to travel to Iran in various aspects in the world, is in good condition (intermediate)

THE TEST METHOD THE HYPOTHESIS
to assess the situation in the area in health tourism by receiving 158 questionnaires with 54 questions in 11 different areas we started to collect and then entered the information in the software espss 22 and we analyzed student t test to assess the validity of the assumptions results.

FINDINGS
After student t test on different areas of the assumptions results were as follows.

The results of the hypothesis
According to the test, t – test the following conclusions based on the data given in Table 3 and 4 were obtained

The first hypothesis
Given that the level of error for this test is considered a 5% and significance level is considered 0.987 and given that this amount is more than significance level of 5% Therefore the H0 is not rejected and this difference is not significant, We cannot comment on the security of health tourism.

The second hypothesis
Given that the error level is considered 5% for this test and significance level is 0.000 , this is smaller than significance level of 5% so difference from the average is negative (-0.36709) and based on that assumption H0 is confirmed. Therefore, we can say that the service sector of tourism between the way the situation is not in good condition.

The third hypothesis
Given that the level of error for this test is considered a 5% and significance level is considered 0.064 and given that this amount is more than a significance level of 5% Therefore this H0 is not rejected and considering that this difference was not significant, so we cannot comment on the security of health tourism.

The fourth hypothesis
Given that the level of error for this test is considered 5% and significance level is considered 0.380 and this amount is more than the 5% significance level, H0 is not rejected and considering that this is not a significant difference we cannot comment about the quality of food, medicine, water, air and health tourism.

The fifth hypothesis
Given that the error level for this test is considered 5% and significance level is 0.016 and given that this amount is smaller than significance level of 5% difference and difference from average is negative (-0.16772) so the assumption H0 is confirmed and we can say tourist accommodation services sector is not in good condition.

The sixth hypothesis
Given that the error level considered for this test is 5% and according to the significance level is 0.000 and this value is smaller than significance level of 5% and difference from the average is negative (-0.34557) so the assumption H0 is confirmed. Therefore, we can say that the transport services of the tourism do not have good condition in Iran.

The seventh hypothesis
Given that the error level considered for this test is 5% and according to the significance level is 0.000 and this value is smaller than significance level of 5% and difference from the average is negative (-0.46097) thus, H0 is confirmed. Therefore we can say that the field of advertising to attract tourists does not have good condition.

The eighth hypothesis
Given that the error level considered for this test is 5% and according to the significance level is 0.000 and this value is smaller than significance level of 5% and the difference from average is positive (0.43671). The hypothesis H0 is rejected therefore, it can be said H1 is accepted and expert-medical services to attract health tourism is in good condition.

The ninth hypothesis
Given that the level of error for this test is considered 5% and significance level is 0.019 and value is smaller than significance level of 5% and mean difference is positive (.2000) thus the assumption H0 is rejected and H1 is accepted. Therefore, we can say that the cost of attract tourists health is in good condition.

The tenth hypothesis
Given that the level of error for this test is considered 5% and significance level is 0.044 and value is smaller than value of significance level of 5% and the difference from the average is positive (0.20253) thus the assumption H0 is rejected and H1 is accepted. Therefore, we can say that the infrastructure facilities and medical equipment to attract tourists’ health is in good condition.

The eleventh hypothesis
Given that the error considered for this test is 5% and significance level is 0.000. and the value is smaller of significance level of 5%, difference from the average is negative (-0.2859) Therefore, H0 is confirmed and thus, we can say rules for investment support in the field of medical and health tourism to attract tourists is in good condition.

T-Test
One test sample

<table>
<thead>
<tr>
<th></th>
<th>Test Value = 3</th>
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<tbody>
<tr>
<td></td>
<td>t</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>security</td>
<td>-.016</td>
</tr>
<tr>
<td>Services between the way</td>
<td>.516</td>
</tr>
<tr>
<td>Ease visa receiving</td>
<td>.866</td>
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<tr>
<td>Quality of food, medicine, water and air</td>
<td>.880</td>
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<tr>
<td>Lodging services</td>
<td>2.440</td>
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<tr>
<td>Transportation service</td>
<td>-.000</td>
</tr>
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</table>
Table 3

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Number of samples</th>
<th>mean</th>
<th>Standard deviation</th>
<th>The standard error of the mean</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2.9989</td>
<td>.80482</td>
<td>.06403</td>
</tr>
<tr>
<td>Services between the way</td>
<td>158</td>
<td>2.6329</td>
<td>.89363</td>
<td>.07109</td>
</tr>
<tr>
<td>Ease visa receiving</td>
<td>158</td>
<td>2.8861</td>
<td>.76737</td>
<td>.06105</td>
</tr>
<tr>
<td>Quality of food, medicine, water</td>
<td>158</td>
<td>3.0570</td>
<td>.81319</td>
<td>.06469</td>
</tr>
<tr>
<td>Lodging services</td>
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<td>2.8323</td>
<td>.86393</td>
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<tr>
<td>Transportation service</td>
<td>158</td>
<td>2.6544</td>
<td>.97814</td>
<td>.07782</td>
</tr>
<tr>
<td>Tourism ad</td>
<td>158</td>
<td>2.5390</td>
<td>.84695</td>
<td>.06738</td>
</tr>
<tr>
<td>Specialty-Medical Services</td>
<td>158</td>
<td>3.4367</td>
<td>1.00765</td>
<td>.08016</td>
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<tr>
<td>The cost of health tourism</td>
<td>158</td>
<td>3.2000</td>
<td>1.06215</td>
<td>.08450</td>
</tr>
<tr>
<td>Care and medical facilities and</td>
<td>158</td>
<td>3.2025</td>
<td>1.25466</td>
<td>.09982</td>
</tr>
<tr>
<td>Support and facilitation rules</td>
<td>158</td>
<td>2.7194</td>
<td>.77972</td>
<td>.06203</td>
</tr>
</tbody>
</table>

**LIMITATIONS OF THE STUDY**

Given that data of this research has been prepared through the questionnaire, in addition to the limitations of this kind of research, following limitations has effect on research.

**LIMITATIONS UNDER CONTROL**

Since the data in this study in terms of place, is belonging to the geographical area of Esfahan city, perhaps in other cities of the country different results be accomplished and due to the special status of border provinces in attracting and guiding tourism investigating this field in these provinces can have effective role to promote medical tourism. Border cities such as Ardabil has great potential for health tourism includes three parts medical tourism, curative tourism, wellness tourism and need review and field studies to assess the situation in his geographical area.

**OUT OF CONTROL LIMITATIONS**

Limited knowledge of respondents on matters related to research variables.
The accuracy of answers provided by respondents.

The length of the questionnaire can cause reluctance of respondents to respond.

**RESEARCH SUGGESTION**

**According to the results of hypothesis testing it is recommended:**

1. Further study about the status of tourist’s security in different aspects of health (physical security, health security, psychological security, social security, etc.) To improve these areas, effective works can be done as well as special attention to the intangible quarantine and intangible security in patient acceptance and effective model in this respect could be responsible for security in the field of health.

2. Given that between the way services for tourists health is in inappropriate condition and it is recommended compared to define international standards and to the world in establishing between way centers (which offer services for medical tourism) provide effective action in order to increase utility services in this area. And with regard to the status of the border region it can be said, create medical unit with proper facilities to accept and treat medical tourists border countries can be considered as an inviolable priority.

3. Given that the results of this research in terms of ease visa receiving show that no comment is done for the desirability of the area, it is suggested with offering a model with a transparent, stable and new visa for international customers Medical services of Iran this situation is improved and determined.

4. In terms of the provision of services in the field of food, drug and climate of quality in terms of respondents has uncertainty for comment and is recommended by providing a new model with the international standards in these areas conditions are improve and determined.

5. In terms of residential services our country is in poor condition, thus providing standard as well as new initiatives for the improvement and development of accommodation in Iran would be effective in this area to increase desirability.

6. Given that in terms of transport services we are having a negative situation and that shows the bad situation in the field of aviation, marine, rail and ground and it is recommended that in addition to using fleet of the world in this field, we take an action to mobilize and standardization of transport to provide efficient customer service of medical tourism.

7. The lack of effective modulus for advertising led to low compliance in the field of medical tourists increasing, so offering new, attractive and standardized model in this section that make the difference and creates an important role in order to increase the income of the currency of this section.

8. Due to the desirable specialized medical services in Iran, maintain and improve quo by creating a short-term educational institutions (see the specialized services and tourism) and presenting international training and up to date of the world in the field of specialized medical services for health tourism.

9. Due to the favorable situation in the costs of medical tourism in Iran Maintain the exchange rate at the macro level as well as efficient use of the factors affecting the cost at micro level can be attributed to the preservation and improvement of the aforementioned condition.

10. Given that the quantity and quality of medical services and hospital facilities are in good condition it can be said that the use of new technologies such as nuclear-medicine, IT, for diagnosis and treatment and recovery process and refresh this equipment can maintain and enhance favorable conditions for the area to compete with international and local rivals.
11. As the result of the eleventh hypothesis shows that it can be said re-examine, modify and create support and facilitate rules in the field of medical tourism can play a role to increase investment in this sector in order to increase foreign exchange income.

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ENERGY CONSUMPTION REDUCTION IN BUILDINGS THROUGH APPLYING GREEN ROOFS

Yasaman Saharkhiz
Department of Architecture, Engineering Faculty, Islamic Azad University- North Tehran Branch, Tehran, Iran

Majid Valizadeh
Department of Civil Engineering, Tech and Engineering Faculty, Islamic Azad University, Sanandaj Branch, Sanandaj, Iran

ABSTRACT
Green roof technology has a history that predates the modern era. Many functions of green roofs utilized during human history are analogous to contemporary functions. The justification of the use of green roof technology based on a review of literature shows the multiple and documented benefits that these systems can impart to the urban environment. Green Roofs can save energy, reduce neighborhood temperatures, and protect human health. They have a strong regulating effect on the temperature of underlying roof surfaces and building interiors, reducing the energy needed for building cooling and the effects of the urban heat island effect.

Keywords: Green Roofs, Energy Conservation, Heat Transfer, Insulation

INTRODUCTION
Considering rising energy price, its impact on consumption, creating motivation for efficiency and increasing its yield, moved researchers to investigate about plant’s effect on energy consumption reduction. In addition, due to increasing in population and lack of adequate land for construction, building density in large cities has increased. This high density has caused lots of negative effects. The urban heat island effect that makes the average temperature in the city is higher than normal, is one of them. This increase in temperature causes an increase in energy consumption for cooling [1].

Green roofs offer a wide range of sustainability benefits, from water attenuation to climate change adaptation. Standard ‘off the shelf’ products, which tend to be sedum based green roofs, can provide some benefit for invertebrates and other wildlife. Furthermore, it can also provide benefits associated with green infrastructure, improved building performance and amenity.

Solar radiation hits the black tar of the conventional roof and is transferred into heat on a large scale; urban centers create a microclimate of hotter weather called the urban heat island effect. Green roofs reduce the urban heat island effect by providing a substrate for evapotranspiration and altering the surface reflection. A reduction to the urban heat island effect indirectly reduces building cooling demands [2]. Intuitively, one roof will not affect urban heat island effect on a citywide scale; only with massive installation would this benefit be realized. A green roof can cost double that of a traditional roof due to engineering and installation costs, yet it will pay for itself over time in savings for a replacement roof and on lower cooling costs over the life of the green roof. The energy savings of a green versus that of a conventional roof are from the insulating properties of a vegetated structure, evapotranspiration from the vegetation, and the substrate acting as a thermal mass [3]. In simulations, green roofs protect buildings from solar radiation through the combined effects of shielding, insulation and evapotranspiration cooling to passively cool. Green roof plant materials absorb radiant solar energy to fuel photosynthesis, with added heat radiation from higher plant structure [4]. The insulating abilities of green roofs in summer have
been quantified and they reduce the heat flux in a building. Green roofs lower surface temperatures, and the substrate acts as insulation [5].

HISTORY
Green roofs and roof gardens date back to thousands of years. Early evidence of roof gardens includes the mausoleums of Augustus and Hadrian. In Russia, hanging gardens were favored in the seventeenth century Kremlin. In the twentieth century, green roofs and hanging gardens were established on homes in many countries [6]. The oldest roof garden appears to be the ziggurats of ancient Mesopotamia, built from the fourth millennium until 600 BCE. Located in the court yards of temples in major cities, the ziggurats were great stepped pyramid towers of stone, built in stages. The best preserved of the ancient ziggurats is that of Nanna, in the ancient city of Ur, built by Ur-Nammu, and his son, Shulgi, who reigned from 2113-2047B.C.E. King Nebuchadnezzar II, to console his wife, Amytis, constructed the Hanging Gardens of Babylon. During the Middle Ages and the Renaissance, roof gardens were owned by the rich, and by Benedictine monks. From the 1600s to 1800s, Norwegians used soil on roofs as insulation, utilizing grasses and other species to hold the soil in place. Early American settlers of the Great Plains also used this technique in the late 1800s due to timber scarcity [7]. Archaeology has revealed the green roofs of the Middle Ages. In this period, plant materials were derived from local sod. A substrate/water retention membrane from inverted sod layers, and birch bark as a water-proofing layer, supported by roof boards and wooden beams [8]. In 1856, Robert Chambers of England visited Iceland and the Faeroe Islands, he wrote of timber scarcity in the Faeroes, concerning a log washed up on the beach, he called it a “windfall of no common value” [9]. The buildings found in Vinland, produced by the Vikings are of two main forms. They were large multi-roomed structures, known as halls, and interpreted as houses with a workshop. Constructed of turf sods laid against a timber framework, and paneled with wood on their inner faces, they had a central hearth. The roofs were also made of turf sods, resting on an underlay of branches supported by timbers. These houses could have housed 70 to 90 people [10]. In the early 1960s terraced green roof technologies were researched and developed in many countries, namely Switzerland and Germany. Reinhard Bornkamm, a German researcher published his work on green roofs in 1961. In 1969, the GENO Hauswas built in Germany, and remained functional until 1990 (metropolis magazine). In the 1970s a significant amount of technical research on the different components of green roofing technology was carried out including studies on root repelling agents, waterproof membranes, drainage, light-weight growing media and plants [11]. Currently, green roofs are becoming more common in the United States, although other countries are farther along in the adoption of green roof systems. In Germany for example, it is estimated that 14% of all flat roofs are green [12]. Today there are many green roofs all around the world.

STUDY PROCEDURE
In this study, based on Logical reasoning and concepts deduction the role of green roofs in energy conservation is discussed. Therefore, Research Methodology is done based on Analytical method.

ENERGY SAVING THROUGH HEAT TRANSFER REDUCTION
Green roofs reduce energy consumption for heating and cooling. Of the total solar radiation that is received by the green roof, 27% will be reflecting and 60% is absorbed by the plant and 13% penetrates into the soil [13].

Studies carried out in the National Research Center in Canada have shown that green roof can decrease Heat flow in roof 70-90% in summer and 10-30% in winter and lower Energy consumption about 75% [14]. Considering that heat transfers through areas and bodies with higher temperature to with lower temperatures, so heat transfers on roofs from inside to outside in the winter and from outside to inside in summer, but The amount of impact varies according to the season and humidity levels.

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1 Before Common Era
HEAT TRANSFER IN SUMMER

Green roof layers help cooling space under the roof through reduction of the heat variability and increasing heat capacity of roof layers and vegetation, also by shading, maintaining moisture and photosynthesis. The combination of reactions in soil, photosynthesis and Sweating and transpiration of the plants causes absorbed solar energy reduction by roof layers. Studies on green roofs show that most cooling benefits in summer are due to roof Sweating and transpiration [15].

The plant transpiration rates depends on various factors such as the type of leaf or stalk, root structure, light intensity, soil moisture, and so on. For instance, shadow effect on vegetation can be terrific. Ghosting of the herb on the roof surface causes prevention of roof temperature increase. Nottingham University research about the temperature of the space under typical roof and green roof in summer indicates that if an average temperature is 18.4 ° C, the temperature of space under typical roofs will be 32 °C and under green roofs will be 17.1 °C [16].

Mineral surfaces such as buildings and standard roofs cause an increase in the temperature of city and heat island effect. Lack of plants and existence of high-rise buildings; prevent weather natural cooling of city. As a result, the temperature of city reaches to more temperature than their surroundings (figure 1).

Roof covering by plants leads to reduction in city temperature and then reduce energy consumption. Columbia University study has shown that if 59% of the roof of city buildings changed for green roof, the average of Columbia temperature will decrease 1 °C.

HEAT TRANSFER IN WINTER

In addition to increasing building heat capacity, Green Roof by increasing layers of roof, through insulation of the building (vegetation and soil) and decreasing wind speed, makes building insulated against cold weather and reduces energy consumption for heating plant roots hold steady some air among themselves, which acts as a thermal insulation layer. Surely, Performance of the thermal insulation layer in green roofs depends on the amount of retained moisture in them. The more moisture quantity is, the less efficiency gets [16].

Results of a study at the University of Toronto showed that green roofs in cold climates also are effective to keep the weather warm. The study shows the effects of green roofs to reduce the intensity of wind is more than the effects of its shading. In winter vegetation prevents planting area freezing and increases the
amount of roof insulation. If the vegetation on intense green roofs covered with frost or snow, it would be more effective [15]. Trent University in Peterborough, Canada research about atmosphere temperature under a typical and green roof in winter shows that if the average daily temperature on a winter day is 0°C, then the weather temperature under typical roof is 0.2°C and under green roof is 4.7°C, and it shows the effect of green roofs on heat transfer [16].

RESULTS
Number of floor (height) on green roof system is installed and usage of building when green roof system is applied. When it is attempted to save heating energy by green roof system, it is more efficient to apply the system to the region with low temperature. In addition, when the region has high temperature during summer, so the formation of shade on top roof and transpiration effect due to green roof system, contribute to considerable conservation of cooling energy. When it comes to the building usage, if green roof system is applied, it turned out that heating/cooling energy conservation vary by the usage of building. It is because of different running hours of cooling energy by usage. By building usage, running hour was set from 16:00 to 05:00 next day for residential building; from 07:00 to 19:00 for office building; from 08:00-18:00 for educational building; and from 09:00 to 18:00 for commercial building. Moreover, insulation effect by the installation of green roof system turned out greater during nighttime zone than daytime zone because the load of cooling system is greater to keep indoor temperature low for bedtime. Furthermore, a residential building has greater benefit from cooling energy conservation by green roof system than the other usages of building. Although large store or office building consume more cooling energy due to more occupants and electric devices in use, so they have higher level of internal heat values than a residential building. However, commercial and office building cannot discharge heat created from inside efficiently because the insulation effect of roof layer due to the increased thickness of soil on roof is greater than the cooling energy conservation effect by the shades and transpiration of roof floor (green roof system). Also, cooling/heating energy conservation effect turned out to be varied by (height of) floor on which green roof system is installed. When green roof system is applied on the top of a single-story building, its effect was the greatest and it weakens as the number of floor goes up. It is because that a single-story building does not cooling/heating conditioning system below and connected to the ground surface, so it has high level of internal load. As a result, heating energy conservation effect is great. As a building gets taller (5-storied, 10-storied and 15-storied building), it has faster wind speed, which more activates soil to evaporate moisture. It improves cooling effect and thus insulation effect weakens [17]. In multi story buildings there are energy demand reductions in only the top floors. The two highest floors below a green roof have the greatest benefit, floors greater than four stories from the roof are not impacted [2]. Green roofs save energy for buildings from both ecological and social points of view; the central issue is improving the thermal regime of buildings. Individual buildings with improved comfort would decrease the need for air conditioning and heating. Widespread installation of green roofs could mitigate the harsh aspects of the urban heat island effect [4].

CONCLUSION
Applying of a green roof can improve the insulation properties of a building that is why annual energy consumption can be reduced. Not only does the roof act to reduce the heat loss from the building in winter and heat gain into the building in summer, it also adds thermal mass to help stabilize internal temperatures year round. Many studies exist that assess the potential energy savings of green roofs when added to buildings. This suggests that green roofs are predominately seen as a passive cooling technique, rather than as a thermal insulator in the winter. Potential winter heating savings have however been investigated, although not to the extent of summer cooling.

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JV THE ROLE OF SUSTAINABLE DEVELOPMENT AND ITS CONCEPTS WITHIN RESIDENTIAL ARCHITECTURE

Saeid Yasinian
Department of Architecture, Hamedan branch, Islamic Azad University, Hamedan, Iran
syasinian@gmail.com

ABSTRACT
Through development of urban communities, it is more vital to create residential areas. Quality of construction and architecture of residential areas has an important role in sustainable development of cities. There are many factors should be considered in development of construction of residential areas, some factors such as optimal use of constructible spaces and increase in construction speed. The concept of sustainable urban development has been one of the most important issues of urban problems that are considered as a development based on real needs and rational decisions considering different economic, social and environmental factors. Sustainable development is the confluence of society, economy and environment as well as an organizing principle for life of people. This assumption would prepare a great future for human communities without destroying sustainability of natural and environmental systems. This descriptive study has been conducted to assess the role of sustainable development and its concepts within residential architecture.

Keywords: sustainable development, residential architecture, habitability

INTRODUCTION
The sustainable development is based on environment, economy, and society and this system will lose its equilibrium if one of the mentioned bases is removed. Of course, sustainable development of environmental issues has a special priority in majority of evaluation systems and evaluation of economic and social aspects of sustainability seem complicated. On the other hand, environmental issues have considerably influenced on relevant strategies due to instant global warming. Therefore, common environment rules, ranking systems and construction regulations have assessed energy consumption and establishment of new technologies more than economic and social aspects. Although principles of sustainable development are similar throughout the world, but it would be essential to have a great understanding of sustainable buildings and sustainable development through specific approaches in accordance with different environmental conditions. A clear definition of sustainability is required in order to define sustainable evaluation system. To define determining rules of efficient and comprehensive sustainable development, ranking systems have been several times revised and developed in order to have more aspects of sustainability.

The issue of sustainable development has been one of the most important and common issues at international level. Environmentalist organizations of the world and Union Organization are important institutions involved in this issue. The serious discussion in this case was started after crisis and its culmination led to United Nations Conference on sustainable development known as “Earth Summit” in Rio de Janeiro in 1992 that was later called “Rio Summit” in which, a resolution was issued to propose some strategies for sustainable development of countries so that they were supposed to follow the resolution. 10 years later, another conference was held in Johannesburg, South Africa between ministers of countries and environmental experts in 2002 emphasizing on enactments of Rio Conference and implementation of these decisions at global level.

SUSTAINABLE ARCHITECTURE
According to OECD plan (Organization of Economic Cooperation and Development), sustainable buildings are those buildings with minimum destructing effects on surrounding constructed (artificial) and natural areas as well as around region and their total field. Sustainable buildings consider the total...
life cycle of building, high-quality environment, optimal functioning and future (Zandieh et al, 2010. Pp. 5-6). One of the most important goals of sustainability is compensation for lost advantages through industrialization and apparent development leading to preservation of ecosystems and optimal use of natural talents to keep them for future generations and preventing them from destruction beside promotion of life quality of human. Another goal of sustainability is consideration of natural environments such as greenhouse effect and destruction of the ozone layer (Sattari et al, 2012, P. 5).

Building construction is second great industry of the world after agriculture. The pollution originated from cooling systems of buildings and constructing materials would be more than pollution of cars and rapidly consume nonrenewable sources.

Sustainable architecture cannot be considered as a style in architecture but this is a smart attitude toward design emphasizing on reduced natural energy consumption and optimal use of natural energy sources.

Sustainable development not only tries to sustain the physic of buildings but also its final aim is creation of sustainability in Earth.

International Research Organization of Building Research (CBI) has introduced four goals of sustainable architecture as follows:

• reducing consumption of primary sources
• reuse of resources
• use of renewable resources
• environmental protection

THE CONCEPT OF DEVELOPMENT AND SUSTAINABLE DEVELOPMENT

Development can be defined as the evolution of life level and reach to an ideal condition in terms of economic, social, and cultural scopes along with realization of some concepts such as freedom, justice, social dynamic, human development, and economic, social, and cultural development. Development is also a discovery method to access to an evolutionary movement balancing social, economic, and cultural phenomena through preparing conditions for social and economic dynamic as well as realizing social justice (Zahedi Asl, 2002). Accordingly, the main goal of development is providing benefit for human such as improvement of life quality, increase in income and development of employment and public welfare (Keith Griffin, 1996). Concept of sustainable development was first proposed in Brundtland Report. According to this report, sustainable development is a development the meet the needs of present generation without threatening ability of future generations to meet their needs (Shiee, 1999).

Sustainable development is a development that considers the present needs of human in accordance with ability of future generations to meet their needs. Sustainable development has been considered since 70 decade through scientific communities of the world because of logical growth of a new awareness toward global issues in environment and development scopes so that this development has been affected by some factors including environmental movements of 60s decade, published books such as “growth limitations” and the first conference of United nations on environment and development held in Stockholm in 1972. Sustainable development is a qualitative development that considers qualities of life with the aim of maximizing level of quality life or future generations (Mahmoodi, nd).

Sustainable development is a development continuously done in order to meet the human needs and improve life quality. Sustainable society is a community living through relevant constant limitations to environment. Such society is not empty of growth, but is a society that identifies growth barriers and considers substitution strategies to achieve growth (Balan, nd).

Sustainable development includes deep concepts within three scopes of environmental sustainability, economic sustainability, and social sustainability. The idea of environmental sustainability suggests
land protection for future generation with this definition that human activity is environmentally sustainable if it is done without reducing natural resources or natural environment.

Environmental sustainability in work of architects is determined with following goals:

- minimum consumption of energy sources
- use of renewable materials
- preserving and supplying energy and complete recycling of energy without pollution

The principle of sustainable design is based on this point that building is a small component of surrounding environment that should be act as a part of ecosystem through life cycle.

**SUSTAINABLE DEVELOPMENT AND EMPOWERMENT**

Empowerment should be the final goal of every project of society development. Contrary to development interpreted as a flow of sources of outside into the society, empowerment would make all society members participate to change the world by themselves from inside to outside (Adhiutama& Dowaki, 2013, P. 1008). Sustainable development aims to create a considerable change in relationship between human and nature while proposed solutions by sustainable development in field of architecture are modern and automatic solutions. According to majority of relevant studies to sustainable architecture and sustainable development, modern attitude of Bacon seems prior in them. He believed “world is created for human not human for world”, it means benefitting from nature under the conditions that it is not destroyed and is usable for human (Gorji Mahlabani, 1967, P. 69). The mentioned issue is not just related to nature and environment but also it includes society.

Spear and Hogi concluded that organizing of society is the best way to empowerment; they also declared that there is a strong relationship between local communities and environment. As every foreigner (alien) should know mental and physiologic situation of society in order to reach social power, all methods should be considered in development as they are done in empowerment project (Adhiutama& Dowaki, 2013, P, 1009). Systematic attitude to this issue is equal to organization of society to achieve major goals and creation of a socialist attitude that is extremist attitude. According to positive attitude toward this issue, empowerment of society without creation of infrastructures is a pointless issue. Access to mental and physiologic situation of a society is only to dominate on the identity and culture of society, and overpower of fake identity to considered developing society. There are some debates in every century with the aim of leading developing societies to modern thought and idea in order to dominate social power and identity of a country. According to paper of Adaotama, the gradual conquest of modern thoughts in developing communities can be seen, these communities believe in schematic development of West as the only way of development. Obviously, modern thinking under the title of sustainable development is overcoming on developing countries. Sustainable development structurally meets the needs of present and future generations if there is a comprehensive attitude toward the issue.

Dr. Shariati has stated about the relationship between people in traditional and modern societies “relationships between people of a modern society are rational relationships based on necessities while the relationships between people of a traditional society are based on instinct, mental and moral sense” (Shariati, 2005, P. 204). Accordingly, Shariati considers the modern reason prior to conventional wisdom and defines it as an instinct wisdom so that there is different between this attitude and traditionalists. However, modern rationalism is not able to solve mental crises.

Sustainable development is a development meeting present needs without threatening ability of future generations. The purpose of modern human (secular human) is benefiting from this life. Francis Bacon (1525, P. 68) was looking for a new science in order to enable human to dominant the nature through power. Modern human would use wisdom to achieve success through efforts (Hojjat, 1969, P. 57).

Non-developed societies should be developed by developed societies in order to achieve sustainable development. Empowerment means making changes in developing communities in order to lead them to desired way by themselves. Appropriate technology should be implemented as a booster through...
several steps within changing and evolution process. The mentioned steps should be included in three main chains of empowerment project in order to make sure about growth of effects of technology implementation (Adhiutama & Dowaki, 2013, P. 1010).

Sustainability term is usually known as the final solution of development. However, the result is reverse. It is determined that sustainable development is imposed to rural community by foreigners’ interference. According to some African samples, sustainable development would bring dependence to foreigners and aliens for members of the society (Adhiutama & Dowaki, 2013, P. 1011).

INDICATORS OF SUSTAINABLE URBAN DEVELOPMENT
World Commission on Environment and has introduced following principles as necessary features of a sustainable city.

1. Increase in social and economic opportunities to support urban residents
2. Decrease in energy share in urban growth
3. Optimal use of water, land and other sources required for urban growth
4. Minimization of waste and sewage and maximizing recycled wastes
5. Creating management systems with sufficient power and efficiency to achieve environmental, social, and economic goals
6. Applying technologies of city to access to sustainable development
7. Reinforcement of different urban areas to achieve economic, social and environmental goals and respond to threats created by natural or human factors as well as dealing with unexpected disorders in urban system; in this relation, a sustainable city is a city in which, social justice is realized through a high-quality life (Azizi, 2001, P. 22). It is necessary to assess some relevant indicators to sustainability of cities. These factors are as follows (Gharakhloo & Hosseini, 2006, Pp. 164-174):

1. Population: the main factor of urban sustainability is population and its economic, social, environmental, and managerial effects on cities even biosphere. Hence, it would be required to consider population as the most important factor in urban sustainability. Assessment of population number, growth rate of population, immigration and its effect on demographic structure of city can be effective to achieve urban sustainability.

2. Economic situation: cities as open systems in globalization, global village and communication era should expand their communications at regional, national and international levels in order to be remained. It is necessary for cities consider their development strategies and economic infrastructures through a method in order to keep economic sustainability of the city, use their potentials and situations within different local, national and international dimensions and develop a higher quality of life for residents. The main purpose of a city in a global competition environment should be based on two points: maximum use of economic capabilities and potentials and creation of various economic activities in city in order to deal with unexpected disorders and fluctuations of world environment.

3. Climate change: according to development of urbanism in current years, it would be required to recognize changes in world climate due to urbanism in order to access to urban sustainability or global sustainability. In general, international environmental treaties have created a key strategy in which, different nations and countries come to an agreement about environmental problems to reduce or solve such problems.

4. Air pollution: cities are the main polluters of environment weather at a local, national and international scale; hence, it would be vital to recognize polluting and intensifying factors in urban environment and reduce them in order to access to urban sustainability.
5. Quality of natural water: there should be some important factors in a city to be considered as a sustainable city. These factors include preparation of healthy water for residents, preventing from a disorder in biologic quality of surface and underground water resources around cities, preventing from pollution or disruption of water supplies in other cities and biologic areas around cities through the excessive use or pollution of biologic sources of these cities.

6. Open society: not only occupy cities different hierarchical levels, but also are considered as a part of a network. There are different flows of information, capital, labor force, products and services within this global network of cities. Common perception of cities about their situation as well and interactions between them in this network would guarantee sustainability of the network. The mutual interaction between cities within different economic, environmental, social, and cultural scopes has made cities to collaborate with each other through global urbanism network in order to be remained.

7. Coherent and integrated planning: complexity of cities beside diversity of subjects and involved organizations in study of urban issues and problems have made planners and policy-makers to select an integrated plan in order to have appropriate planning and make balance between different priorities, preferences and needs of interferers. This point has been more considered today mentioning that integration of executive rules and regulations among responsible institutions and organizations is an effective factor in an efficient urban planning. Creation and use of a set of organized and integrated rules and regulations is a method creating effective yield through coordinated collaborations so that the feedback will be considered as a basic strategy for cities to strengthen communications, correlation and coherence in society.

8. Ability and potential of innovation: a city should be able to innovate in order to have capacity and potential of adaptability and compatibility. Without appropriate innovation, a city is not able to adapt with crises and disorders rapidly. Evolution ability inside the global competitive market would create a base for a compatible urban pattern. A city should have a strategic planning and policies and plans should allow the city to determine its future.

9. Relevant potential and capacity to regional infrastructure: infrastructural potentials are facilities and equipment such as transportation and communication systems (rile, air, road, sea) making relation between city and the rest of the world. The mentioned infrastructures should be developed to make it possible for city participating in global economy. Speed is a basic and important factor of participation in global business so that the city will be in improper economic, social, and cultural situation if people, information and products are not able to move between places and areas rapidly. Some options can be considered to evaluate this index, these options include capacity of import and export gates of city to import and export products and services such as capacity of airports in terms of transportation of cargo and passengers, capacity of passenger and cargo terminals and quality of its facilities and equipment, the quality of telecommunications in the city such as the number of telephone and Internet subscribers, etc.

10. Social capital: some indices can be used to recognize the capacity of social capital of the city. These indices include number and type of Organizations, non-governmental organizations and local communities, per capita of them and length of membership, community groups and their per capita, level of awareness and understanding of people toward social structures. In other words, social capital is determined through membership level of people in groups and networks.

11. Education and training: there is a relationship between social movement and change and ability of educational system to teach life skills and jobs to people. When economy of cities is getting more and more global through various service sectors, jobs will get more and more specialized so that the awareness of relationship with the world will rapidly developed.

12. Security: security is one of the most important needs of human that meet some needs such as sense of belonging, respect and self-actualization as well as physiologic needs. A sustainable city needs a sustainable, safe, and secure environment and area for its residents.
CONCLUSION
Sustainable development is a movement based on human and environment considering development of economic facilities in accordance with environmental considerations and social justice. Sustainable development was considered due to the problems originated from only economic development after world war when there was an irregular development causing social gaps and environmental problems with less attention toward environmental and social aspect compared to economic aspect.

All relevant concepts to sustainable development were considered through development of urbanism in human life and sustainable urban development is a result of new perspective toward social, spatial and environmental justice in the city. Cities will contain 75% of the whole population of the world by 2020 while they have 2% of urban space. Therefore, this strange and unprecedented density of population and public need to attract basic resources would lead to abnormal exploitation from local and neighborhood resources. The effects of this development are along with unprecedented wastes of cities leading to pollution, diseases, and new types of suburban life, but sustainable urban development as a part of sustainable development is based on reasonable use of natural sources including environmental, economic and social considerations.

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POSITION OF CREATIVE THINKING IN THE ONTOLOGICAL APPROACH TO ARCHITECTURE EDUCATION

Alireza.Ghayoorfar  
Ph.D student of Architecture, Faculty of Arts and Architecture, Islamic Azad University, Science and Research Branch, Tehran, Iran  
alireza.ghayoorfar@gmail.com

Iraj Etessam  
Professor of the Faculty of Arts and Architecture, Islamic Azad University, Science and Research Branch, Tehran, Iran  
i栉essam@hotmail.com

Seyed Mostafa Mokhtab  
Professor of the Faculty of Arts and Architecture, Islamic Azad University, Science and Research Branch, Tehran, Iran  
mokhtabm@modares.ac.ir

ABSTRACT
Creativity, referred to as innovation, is one of the most important criteria used by architecture experts in the criticism of architecture students' works. In old architecture, spatial benefits, in terms of biological health and the presence of architectures in the environment, has emerged as the first application of space. The priority of presence-existence aspect in the process of current education has turned into a mentality-based innovation from architect-innovator. Here, two thinking creeds try to meet human needs by enhancing existence and modernity with timely happiness criterion. The present study was aimed to refer to the importance of the ontological aspect of behavior in line with human identity, and materialistic innovation in the field of architecture education. The concept of "creativity" in thinking creeds of extremist and knowledge-based doctrines, has formed a theoretical framework for this paper in the edition of the theoretical model into a conceptual model in order to provide a questionnaire, to code, and finally to interpret data. The results of the present study are from two different attitudes of happiness-based experimental innovation, "modernity knowledge extension" against beautiful creativity, human health, traditional extremism showing principle differences, expressing an internal relationship between two criteria, timely inter-dependency and superiority in understanding, taken from modernity attitude in the process of creating works.

Keywords: creativity, superiority, happiness, innovation, timely cognition

INTRODUCTION
The term "architecture" is rooted in humans' age and existence. When examining different eras of human existence, certain similarities, in terms of selecting pictures or concepts, are seen, which are referred to as fashion. Over time, we have been witness to the emergence and fading of paradigms that have occurred based on certain meanings. But no two methods are similar; they are latent and obvious similarities in existential behavior and meaning. What makes them different in terms of essence is time and space. Time shows the emergence and fading of skeletal paradigms based on thinking creeds. The constant efforts to discover realities and reach happiness and transitivity of fashions in modernity creeds are mild and dependent on a different origin. From the difference between the thinking creeds of these two attitudes, we can focus on the root of this attitude distinction in terms of creativity and its application in the process of creation.
TRADITIONAL CREED: EXISTENCE PERFECTION, INDIVIDUALS' MENTAL HEALTH IN A PUBLIC FRAME
In tradition, creativity has purpose-related differences, compared to innovations taken from modernity creeds. In order to learn about creativity and ways to reach it, we must compare traditional attitude with its difference from modernity.

By definition, tradition is referred to as a perfect intellect with divine origins, which is introduced by people like prophets, messengers, and avatars (Nasr, 2014, p75).

FOCUSED BEAUTY
In a thinking creed taken from existence perfection principles, beauty is endowed with creativity in line with existential perfection. In traditional thinking creed, beauty belongs to God, and beautiful faces have meaning and good spirit. But meaningfulness precedes face beauty, as God's creatures precede meaning. In this attitude, unlike what has been introduced in modernity as fashion and happiness, beauty is creation not its purpose. Perfect creation means beauty.

Divine wisdom which is the source and origin of humans' wisdom is both discipline and secret, in other words it is God's beauty. That is why face beauty dominates humans' wisdom taking them away from doubt (Nasr, 2010, p445).

Reasons for humans' origins have been made obvious in different ages. In traditional thinking creed, any natural thing is a reflection of God's power. Nature and objects have divine and spiritual values in addition to their materialistic values. In this creed, natural phenomena are signs of a divine spirit. In this creed, art is a balanced combination. Beauty precedes all other concepts. In artistic works, meaningfulness and spirituality has been emphasized. By definition, in addition to the above-mentioned aspects, architecture also requires ontology and worldview; hence, it is more inclusive and more complete than other definitions; and in a traditional viewpoint, it guarantees humans' perfection (Raskin, 1848, according to Akrami, 2002).

In this attitude, architecture is creation; a piece of work which is admirable has been defined. Creation is from God and his beauty. Alaref chapter, verse 31, (Akrami, 2002, p36). In this outlook, beauty is not a purpose. Creation which means perfection guarantees beauty which is not acquired beauty but inherent and original beauty. The identification of this beauty is desired in terms of perfection.

In conclusion, beauty is a prerequisite of reality and existence. Because humans' faces are artistic works, they are themselves artists (Hashr chapter, verse 24). Man is a creature with wisdom, able to create wisdom and beauty. Cognition and aesthetics are qualities which humans have inherited from their God. Creativity is endowed with beauty; hence, not all creations are art, but art is the type of creation which is endowed with beauty (Avani, 1996, p318).

Beauty is a phenomenon which depends upon humans' time and existence, and it is not absolute; based on our existential experiences, what is perceived as beauty today refers to our

Aesthetic cognition. Innovative creatures do not stop in time and in one face in terms of art. The attitude differences between the two creeds are no in terms of change but they are in terms of transformation speed and modification style. Both creeds cause change and modification. Both reach analysis and face paradox from normative intellect. Differences are in criteria and their analysis; when reaching theoretical intellect which based on Feritorf Shwan's attitude is referred to as perfection in traditional attitudes, and creative happiness in modernity creeds. Modernity does not refer to an exact era, but it refers to an era where humans focused on realities not abstract ideas in the field of existential wisdom. Because they relied on realities, they more used epistemology methods than ontology;

Traditional humans like beauty and they create it, even if they do not know that they are creating it. In any traditional civilization, all human qualities are from divine principles (Ganon, 1991; p65).
Traditional art does not guarantee beauty because it is metaphorical and full of secrets; and creation is more internal and deeper than a simple oral expression. Art is the discovery of reality. In traditional civilizations, arts try to notify humans of reality. Tendency towards perfection, which is rooted in humans' nature (Nasr, 2010; p448).

In humanism, humans by relying on instrumental wisdom try to identify phenomena. Phenomenological self-knowledge is the most important element of humans' wisdom. In romanticism, Kay Perkigard emphasizes the fact that humans are constantly making choices for which humans' minds cannot comprehensively identify phenomena.

Accepting the fact that humans' instincts might be dominated by wisdom is an ancient illusion which has always led humanity to bitter shortcomings throughout history (Reed, 1995; p112).

Feritorf Schwan: "The concepts of art are rooted in the soul, wisdom and mysticism, and divine science not just industrial science. In other words, art inherent principles are typically phenomenal principles of a higher level (Schwan, 1999, according to Nasr, 2010; p18).

**INNOVATION; HAPPINESS**

Since paying attention to individuals and empiricism humanism in gaining personal identity questions criterion, and perfection principles of tradition as non-modifiable principles, we must examine and analyze what this experience has brought for humans. In this sense, we focus on modernity in terms of creation.

Modern thinking refers to art as a product of artists' minds, which can only be done by geniuses. Superficiality related to obvious world affairs without considering an artist or genius's mind dimension is not valuable. Art is more complex than humans thought; part of an artist's imaginations and visualizations which have been put into action is a part that has been separated from a routine procedure (Bene Velo, 2001, p285).

In two seemingly different attitudes of modernity and traditional perfectionism, the attitudes of two famous architects have been the focus of attention. Frank Luid Wright, a great modern architect, was asked at age 83: "Which of your works do you like most?" He replied: "The next work," i.e. the next work or the next day in order to learn more about myself. About perfection in architecture, Korbozieh stated that: in architecture, an undeniable event happens when creativity happens. When the mind is trying to provide cohesion and convenience in the structure, it applies more perfect passions by focusing on more simple activities such as the application of usefulness, a passion which comes from poetic forces that are exciting and delighting (Johnson; 1994, p790).

The concept of "travel" is against any stop or pause; the timely meaning of a work is the product of existence and is related to the perfection time of that existence (Sholts, 2002, p48). On the other hand, great architecture masterpieces at the time of Vajed do not have a depreciation dimension. This possesses fixed innate principles, i.e. those eternal principles that guarantee the survival of works; what helps some works to be thought as beautiful for long is more rooted in the meaning of them than their attractiveness. This is what has been claimed by traditional thinking creed.

Modern artists who find themselves able to reconstruct nature and man can become more independent relying on their own creativity. They find themselves to be better, more knowledgeable, being able to apply any kind of construction and creation. Not everybody has this gift. Because it is complex to create objects in modern thinking, it is believed that ordinary people cannot understand or visualize it. An artist's mind is superior to ordinary peoples' minds and only intellectuals and geniuses can comprehend it. They did not limit themselves to a rational system and relied more on their personal deductions; hence, they gradually replaced their intellectual criteria with objective criteria (Pakbaz, 1988; p26).

Creativity, which is referred to as personal enthusiasm, is a factor which cannot be evaluated, i.e. an individual element in art. Whereas the need for beauty which arises from creativity in humans is a natural thing. If special people need interpretations, ordinary people need pictorial art more. In the
traditional civilization, art communicates with the majority of people. Therefore, in this type of art, there is a deep and meaningful relationship between the face and meaning. In modern art, beauty is an excuse for happiness and creativity (Schwan, 1999, according to Nasr, 2010).

While construction is a boring job, practical architecture is a poetic act which is a metaphor of the universe, expressing a certain type of ontology in order to identify oneself (Alberto Perz Gomez, 1994, according to Akrami, 2003).

Individualistic spirit which is affected by modernity and refers to artists as geniuses, considers artistic works as products of tastes, traditions, and dominant enthusiasms in the society. It is a humanistic and materialistic attitude which arises from modern humanism worldview. If art is an individual act, how are social objectives recognized from social, economic, cultural, and traditional realities of customers?

Traditional art believes beauty to be subject to a perfect purpose trying to manifest a spiritual reality in the frame of humans' perfection; therefore it does not reflect variable happiness. In this thinking creed, in addition to beauty, there is a deep meaning dependent upon an eternal reality. Traditional acts can only be taken from a cognitive, observational, and mystic attitude. And modern innovation based on tradition, and because of personal observation and individual empiricism has no support.

Modern perception of creativity in face beauty dimension has stopped in the excitement of observers' emotions, i.e. a personal-internal understanding which, in a level higher than rational inferences, understands perfect forces in art and architecture; hence. It faces challenges in its beliefs, because belief in perfect and supernatural forces is different from humanism. Hence, because of being Eclipse in the materialistic world and because of relying on disputatious and infinitesimal wisdom, they interpret perfect affairs as poetic forces. (Akrami, 2003, p42).

PERSONAL EXPERIENCE; MODERNITY INNOVATION

When we make inferences about modern architecture, we must note that this does not only include a set of novel forms, but it is also a novel thinking creed whose results have not been calculated. According to Dante: "What is expressed today might not be something which endures (Bene Velo, according to Pakbaz, 1988, p25).

Modern human, instead of trying to reach the base of realities, claims that he has lowered down reality to his own base. The inconsistency in modernity theories is seen in the inconsistency of ideas and concepts. Modern human does not accept intellect which is cause and sustainable; and it accepts action which is effect and unsustainable. It must be noted that in action, effect is separate from cause, which leads to the unsustainability and transitivity of action. On the contrary, intellect has its fruit in its base (Ganon, 1986, p52).

Novelty and innovation are the disease and prejudice of the present work (Schwan, 1959, p148).

Creating architecture space from the viewpoint of phenomenology on the way of ontology is in fact a novel discipline of the cosmos. Becoming new or the feeling of being new in a construction project is interpreted as a certain type of self-knowledge because human essence is complete with places. In order to have such a feeling, it suffices that today's human does not block his feelings and emotions against miracles less (Alyadeh, 1996; p46).

EXISTENCE PERFECTION

In order to find an element of discipline in a chaos, we must go beyond factors that have caused such a chaos; to understand this new world, we need to get away from it and stand in a higher level. We need to look at past and compare. This is very difficult due to environmental and intellectual pollutions that have been caused in today's world (Ganon, 1970, p2).

In order to pay attention to creativity in architecture education, what was defined as a framework bringing mental health in Iran's traditional architecture, has been transformed.
Because today's humans do not feel they belong to their living places, they are considered to be homeless, but they possess novel architecture; structures without existential meaning. The comparison of lifestyles in different eras has been criterion for evaluating humans' existential body tested elements. This is what was tested in humans' lives, not a mentality far from judgement (Higgar, 2007, p43).

When criticizing modernity, if spiritual happiness is ignored, we must focus on the short lifespan of humans and the limited mindset of humans. It must be noted that a mental evaluation based on speculations has been used instead of an objective and spiritual evaluation. The results obtained from materialistic inferential intellect must be observed in this statement by Bernard Shaw: "Now we need a number of mad men, and see where we are due to wise people (Shaw, 1950, p83).

Today's art and architecture has been emptied from eternal meaning and beauty; and the meaning of artistic works does not only communicate with perfectionists' clean soul, but we can only hear the meaning of works from their designers and critics. A creative idea has a perfect and eternal origin in any way. All artists whether by relying on consistent traditional principles or depending upon constant modern changes, have rejected the unconsciousness of creation and inspiration. God has invited humans to investigate and discover Garlic internal and external (Faslat chapter, verses 47 through 57). Nature and what includes creation is what has been clearly referred to. Human is included in this constant adaptation. Beauty together with meaning and perfection is related to past eras; with an eternal root, humans belong to their own eras. Norberg Sholts interprets it as the perfection time of humans, and Foeh Long interprets it as intimacy principle. Today's human seeks meaning in his life. Hidgar looks at meaning as a current procedure in time in the viewpoint of phenomenology, but he sees face as variable based on timely principle.

In conclusion, based on the two introduced paradigms and the theoretical framework, creativity and education are considered in the process of architecture education. The goal of beauty arises from eternal creativity and also materialistic innovation in adaptation of humans' mindsets with a beauty and communicating with it. This communication is referred to as a location-existence feel. It is what is considered to be an ultimate concept resulting from beauty-based space-time understanding as the major goal of creativity, whose absence denies humans existence and disturbs mental health. The following conceptual model is about the principles of tradition according to Ganon, Schwan, and Nasr; and about existential experience with innovation according to Sholts and Hidgar's phenomenological comments when recognizing the differences between criteria in two thinking creeds.

**Table 1:** Criteria of creativity in two paradigms: tradition and modernity
In fact, if we can consider the discovery of location meaning and the mutual relationship of humans' lives when creating meaningful places, in order to provide proper existential behavior, to be the goal of creativity, it will be more necessary to focus on humanistic criteria taken from spatial existence. These factors are recognized in two needs: natural and supernatural. The former is

Life perfection and meaning arising from creation taken from the tradition paradigm, and the latter is timely understanding and communication with the space and time of creation, which is a tangible reality in the modernity paradigm. Since the meaning of location in higher levels of belonging to location is more closely related to individuals, it is dependent upon the style of interpretation and attributing meaning to the created work. According to the principle of inter-dependency, Foeh Long stated that: Understanding of created work is in communication with audiences. The principle of timely understanding received as much attention from the statistical population and architecture educators as life perfection in the conducted study.

**RESEARCH METHODOLOGY**

The present research's methodology was selected based on a qualitative research method, using semi-structured questionnaire in analysis-based method in order to recognize the relationship between creativity evaluation factors. The collected data in the form of weighable words were classified through coding method and they were analyzed. In order to reach thought bases, samples were divided into two statistical populations, i.e. 1) the group of professors believing in eternal beauty in the creativity of fixed principles of time, 2) and innovation in connection to change and disbelief in fixed eternal principles. Generally, from 47 samples ready to cooperate in order to achieve thinking creeds, samples were divided into two statistical groups; 1) group of experienced professors from fine art universities in Tehran, and 2) amateur teachers in Azad Islamic university. Normally, experienced teachers, using their experiences and existential meanings, focus on creativity in fixed frameworks and in the existential face of space according to work and life history. Younger teachers who use computers engage more in formal humanistic and mindset spaces resulting from events related to the ultra-human processing brain and softwares that pay less attention to the existential aspect of space; they believe in quick changes and discoveries, but at the same time they consider fixed principles to be not only from a supernatural world or source but also from nature and its discovered and undiscovered principles. Generally, from votes, 47 samples were ready to cooperate with me; and it was tried to determine and classify convergent points. Questionnaire key words were taken from the conceptual model of interviews and library studies. In the edited questionnaire, it has been tried to use
special meanings in the minds of teachers which were paid attention to in order to express the importance of paying attention to faces of creativity in architecture education. It was also tried to identify criteria for evaluating creativity in the process of producing works by architecture teachers.

The results obtained from the two statistical populations are as follows:

**TEACHERS BELIEVING IN ETERNAL PRINCIPLES:**

| Table 1: Analysis of the results obtained from interviews in the order of audience groups |
|-------------------------------------------------|----------------|----------------|----------------|
| Paradigm                                        | criterion                  | Experienced teachers | Amateur teachers | total |
| tradition                                      | Creativity needing Eternal principles | 29%              | 73%              | 72%   |
|                                                 | Pharaoh principles         | 82%              | 53%              | 63%   |
|                                                 | Illumination principles    | 70%              | 34%              | 34%   |
| modernity                                      | Happiness (audience motive)| 17%              | 82%              | 36%   |
|                                                 | Humanism experience        | 68%              | 28%              | 30%   |
|                                                 | Understanding of objects   | 29%              | 23%              | 23%   |
|                                                 | Personal innovation        | 58%              | 73%              | 68%   |
|                                                 | Beauty timely perception   | 52%              | 23%              | 34%   |
| Total                                          | Beauty, creativity, not discriminating face and meaning | 70%              | 30%              | 49%   |
|                                                 | Eternal objective principles varying in time-discernible | 60%              | 82%              | 76%   |
|                                                 | Necessity of testing mental-life health | 86%              | 78%              | 81%   |

The examination of the two statistical populations shows that the two groups of experienced and amateur teachers emphasized the constant procedure of recognizing humans from objectives in the form of personal mindsets. In this procedure, experienced teachers have considered creativity to be present in the meaning of innovation, and in the current procedure of education, they have evaluated it based on creative students' ultra-objective and intellectual criteria; but they have evaluated the traditional principles of creativity based on eternal, ultra-human, and illuminist criteria, praising this procedure of creation which requires face and meaning to be parallel. Both groups have emphasized the unconsciousness of creation at the same time, but they have considered creativity to require fixed principles. Despite the fact that amateur teachers who focused more on creativity using spatial tools like computers have not considered creativity to require invariable principles, but they have not considered creation to happen without being inspired by an eternal source, i.e. the poetic inspiring force which is used by modern architecture teachers.
In the comparison of the comments presented by both experienced and inexperienced teachers in connection to principles in coordination with time, inexperienced teachers find it necessary to use experience, and experienced teachers, while believing more in invariable eternal principles, find it necessary to focus on principles in coordination with perfection time and the principle of timely understanding.

70 percent of teachers believing in fixed eternal principles leading to creativity do not consider creativity to mean happiness. In this outlook, they have emphasized the concurrence and similarity of face and meaning. They have considered facial beauty in real creativity taken from an eternal origin leading to a meaning which refers to humans' existential needs for architectural locations. In this outlook, space or object is created. Architecture is not looked at as a body. It is seen as an identity for
humans. Innovative and intellectual masters emphasize life and health when focusing on space creation; they have accepted creativity not in existential meaning but more in terms of innovation according to personal natural and objective experiences; and they have considered this innovation to be prior to the acceptance of principles, without understanding and personal experience.

CONCLUSION
According to architecture definitions, there are common beliefs that architecture is meaningful from an existential viewpoint, but with different perceptions. From a traditional perspective, God's creation and real beauty requires reality and existence. Architecture is tied with wisdom and intellect in reality and God which are creativity and beauty. From a traditional viewpoint, an architect's art is not merely an individual and artistic work. In traditional architecture, unlike architectures taken from modernity, there is claimed to be an inherent relationship between beautiful face and meaning. Traditional civilizations in a texture of behavior and body, created group identity meaning in time; creativity is meaningful only in line with timely existence. Hence, such civilizations did not readily accepted rapid and new changes. Perfect identity relating to the spiritual world, is higher than humans' Temporal and materialistic intentions. Identity as humans' essence in the most perfect definition of human is tied with their meaningful structure and space creation. Identity definition of every individual in his living place; they are affected by what they create and they also affect their creations. Such an existential identity is created in their lifespan. In the perfect definition of creation, object creativity is not just referred to as beauty; but the meaning of beauty is not manifested in an ugly body.

Despite the fact that amateur teachers have emphasized the presence of fixed principles in the process of creativity, they have not introduced any criterion but personal experience for evaluating creative works. In students' projects, body innovation can be referred to as architecture formalism. What was related to age and life has been limited to a beautiful sculpture. In both methods, humans seek perfection and beauty. The result and fruit of this beauty lies in beautiful and perfect life. In this path, through intellectualism and perfectionism with intellect within creating a memorial of eternal location, paradise has focused on Garlic internal and external in order to provide an opportunity to move towards illumination by focusing on experiences and innovation. Both thinking creeds have taken steps to have self-knowledge and return to eternal identity. Face in time belongs to floating existence. Rapid changes without existential tests, frozen in a single face, and without timely understanding of humans were not accepted by the statistical population of the study; but creative change with timely existential test was emphasized.

It must be noted that as the face of tradition has been based upon meaning, face dogmatism without understanding the "timely" component will lead to lack of creativity.

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STUDYING EXECUTIVE TECHNIQUES COORDINATION NECESSITY IN IMAGING OF CHILDREN'S BOOKS WITH THE THEME OF SACRED DEFENSE

Maryam Fathi  
Faculty of Arts, University of Shahed  
barane_paeizi73@yahoo.com

Parviz Eghbali  
Faculty of Arts, University of Shahed  
eghbali@shahed.ac.ir

Mohsen Sadeghi  
Russian National Academy of Sciences, Moscow

ABSTRACT:  
In imaging of children's books, any of the executive practices in terms of attractiveness and effectiveness has certain types. The main objective of this research is to identify executive techniques in imaging of children's books that are generally considered in two methods including manual and computer methods in which we can see how we use them in the field of Sacred Defense. The study is based on the fundamental objective and descriptive-analytic method and the way of data collection by library resources. Studying children and the relationship between text and image are an introduction to the main topic, i.e. the analysis of these works. For a detailed review of procedures assumptions in this paper, 11 samples of imaging of children's books of illustrated books with the theme of Sacred Defense have been analyzed. At the end of this paper, for a better understanding of the theme, final result is shown in some tables. Here, the overall conclusion is that the Iranian illustrators, in their work with the theme of the Sacred Defense (between the 1980's and 2010's) used manual methods among this, watercolor technique is most widely used.

Keywords: Technique, Imaging, Children, Sacred Defense

INTRODUCTION  
Techniques are apart from the images, feelings and shapes and gaining technical skills completes the theory and decomposition process. The most beautiful word that could explain the techniques is having patience and tolerance. Technique needs time, as the creative process needs time. Imager according to the story demonstrates structure, design and form of expression.

Here, the selection criteria of methodology or techniques in story visualizing are the tone of the governing space in the story and the second type is mental relationship between imagery and text and the subject of the story.

But in addition to the above discussion, now with the advent of computers to the domain of executive techniques in illustration, new discussions have been raised.

In this study, the main discussion is assessment techniques and methods used in the war-themed children's book illustration and accordingly, we can review this case and pay attention to the fact that war theme with all aspects of war on the battlefield needs what kind of image and executive techniques?

IMAGERY
"The purpose of visualization if walls, columns and books in human history is creating more effective transition and message for communicating and creating understanding and artistic imagery in which illustrator creates illustrated narrative." (Sayyid al-Sadr, 2004)

Illustration is a kind of verbal language or translation into the design and colors in which children interest to beauty makes better by looking at and helps to understand the concepts and content of the books makes it richer and more effective. It is a tool for the child for reading which is mixed by literary message and affects the depth of thoughts, fantasies and imaginations of children. (Ebrahimi, 1988)

Images of a book not only give beauty, but also must reflect the image with meaning and full of content. The book artist either to paint for illustrated book or books that have not lots of images, however, for a better understanding of the text and the subject of the story, must help the child.

The artist must rehabilitate worthwhile scenes and ideas in the story. Each image must be equal to one of the opinions expressed in the text. Images encourage reader to rule to apply his/her imagination and go ahead the story. This is one of the main purposes of illustration, because awakening and strengthening the imagination is one of the main causes of mental development of children. Illustrator must create the image that makes the image for audience to think about story elements which are mentioned in the text.

He/she should provide images with enough detail to help as a guide on the subject of the story. (Golduzian, 2005)

ANALOG ILLUSTRATION
The purpose of Analog illustration is presenting works that are done solely by hand without the aid of computers. This type of visualization includes a variety of visualization techniques such as watercolor, gouache, collage, printing, scratch board and so on. In this method of illustration, just in the process of scanning and printing, it is out of the domain of activity of the artist.

COMPUTER (DIGITAL) ILLUSTRATION
Digital imaging are also addressed to all processes creating images through 0 and 1 (computer language), albeit it can be seen here in two different views. First, someone believes that digital imaging describes any product obtained by a picture from the computer. Mr. Farshid Mesghali says: My understanding from the digital illustration is that computer tool is 0 and 1, and any matter with this tool is a digital production.

In fact, according to this group, if the work is done on the computer and the product anything, even if is attainable with other ways and means, is also called open digital.

TECHNIQUE
Technique is word that is usually used in English and French to show the appearance of any work of art which is employed and is synonymous with the word "Skill" in Arabic and "Art" in Persian. The word comes from the Greek root of the word "techno" is usually applied to two meanings.

In a sense is the skill to create everything with the power and other means is to identify and know.

In the second case, "techno" creates something that the Greek philosophers called it as "poesies" that in fact is the tangible expression of a subtle affair. This is how the science and knowledge in general and knowledge in the most general sense, i.e. to see and to visit it.

Techno ¹

Poesies ²

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At this point, the nature of knowing is the unveiling of the creatures and objects, i.e. with techno or technique everything becomes visible and manifest and obvious.

**THE IMPACT OF TECHNIQUE AND TOOL ON THE CONCEPT OF VISUALIZATION**

The proper use of executive tool and techniques is one of the imager's skills, so with an understanding of visual effects of tools, be able illustrate the desired feeling or concept better and each tool has some characteristics that as using it for creating illustrations, these features affect the concept.

**RELATIONSHIP BETWEEN THEME AND TECHNIQUE OF THE BOOK ILLUSTRATION**

In choosing this topic for illustrated books, it should be noted that readers of books are in which age group and should illustrate the issue with the use of convenient and attractive technique according to their psychological needs.

In illustration of the book, if the story topic is not associated with the appropriate technique, it cannot have a good effect on the psyche of children and young people. The concept of a story will be achieved once technique is on the subject and called it "sit" and a close relationship between the two is created.

Personal attitude of imager along with skills and capabilities of illustrator is seen as the viewing angle to explore and examine the matter or subject as the most appropriate point of view. Pictures of books, thoughts and feelings are expressed through the effective application of imaging techniques with the appropriate language.

Illustrator has a wide range of tools, but is often the subject of book that is the determining factor in the use of appropriate technique for creating images, as well as the method of choosing techniques depends on the child's children's book illustration. Understanding the kind of thinking and mindset and the best way to understand the basics of choosing the right technique of illustration for children is knowledge of the world of the child.

As the range of technique spread in book illustrations, new awareness of technique and usability to use it in a variety of subjects for Illustrations is achieved.

**TOOL IN ILLUSTRATING BOOKS FOR CHILDREN**

Pictures a kind of illustrated, thought and feeling language expressed through effective use of technology in graphics and painting.

His/her training and skills are assessed in terms of how to use these tools in order to demonstrate his/her understanding of the function of the form, psychological sensitivity, originality and self-controlling of tools. All these powers are determined in the images he/she creates for picture of books. Illustrator may use two or three tools in any work and sometimes just a tool. Illustrator expressed about the quality of their search and according to the topic, selects appropriate view of the tools.

In selecting the image tool, several cases must be considered:

1) **Subject:** (what type of tool can better express the issue)

2) **Field of work:** (every tool cannot be applied at the current field)

3) **The title and power of imager in employing a variety of tools**

It is also a critical issue that some illustrators are fluent on only special tools. Someone works with color, someone with pencil and someone with Rapid. Since we said that there is a relationship between subject and tool, now with respect to the subject that requires special tools, if it is not be possible to use such a tool, what should we do?

Some of the artists to create visual images can work with various art media and are not bound to a specific method.
The story mode is the determining factor of the painter and he/she must believe that no other tools are effective for expressing that story except the selected one. He/she must use unique features of that tool and should be able to present what the mediators adequately meet through art with the best conditions "(Royesh, 1993).

Technique in the illustration of children's books
Nowadays, the technique will also be presented with this concept that "technique is the personal method to use the tools and how they work and how to choose the material in creating a work of art. So factor that brings art to the pure creativity is artistic individual character in the way of personal expression and how methods and techniques are employed "(Nami, 1987)

Artist through the use of special techniques appropriate to the subject and content of his/her work, established mental relationship with the audience and thereby transfers the message to her/him. An important part of art alphabet is "technique" which the artist speaks to us through that and lead to unknown world of ideas and imagination in the mind.

Before starting work, the illustrator should have certain about techniques matched with the theme of your work, so important factor in creating a work of art is the method used is in it in which many art critics believe that fifty percent of the value of a work depends on the technique.

Thus, in order to see how best to use the tools and instruments as well as to the most appropriate use of materials, we should identify various functions of these elements and employ them due to the theme of the content of the work.

In the study of books, we found that many of the techniques have weakened the image, because many different types of tool are used in a way that not only we have not a pretty picture but also nasty and dull.

Face color scheme and the specific characteristics and implications created in children by observing, is not applicable with any technique.

In fact, illustrator in his/her technique must consider three bases of time, location and the matter. What techniques can better show the light of day, night darkness, past era and present or future spaces or what technique can show scare of elephants, goats, soft sable of fur, mane and varnish lines of leopard and lion, scales of snake and fish?

In a brief look at the pictures in children's books, often we find that illustrators, more or less, care the relationship between the three axes (time, place and topic) along with the techniques employed in the work.

"In fact, visualization is not done not only by drawing and painting tools, but nowadays, designers and illustrators in any way use expressive features and visual art for portraying their subject." (Nami, 1987)

Using computer in imaging system has been very strong. However, in reviewing the books, we face items like letters and assembly and changing the color and hundred percent run picture by computer is not found, but due to sophisticated computer facilities, it is feasible and possible.

"How much computer programs can have an effect on the share of illustration and assist him/her or even replace or with the help of an application that has already been given, as the order of the illustrator or publisher, build a picture for the book contexts? (This is a question that Illustrator should note on the PC usage) (bimonthly print magazine, 1993)
The relationship between text and image

"In fact, the children's book text is a field of children's lives. Text can familiarize children with another world and other people (even when all faces are turned into animals) and will take him/her to the audience and through this, the mind becomes strengthened, fulfill the emotional needs as well as opened the mouth to speak to another and display literature, culture and traditions and legends of the community against him/her. "(Sohrab (Mafi), 1993)

The relationship between text and image is the sustainable feature of imagery and imager in addition of having independence in showing image, imager is required to follow the text in text speak. In this regard, also consider child's understanding criteria in employing the technique and personal fantasies. "Harmony and balancing the image with the text in terms of facial conditions (associated with the image and text) and spiritually (fitness and interconnectedness between image and text) should be considered by imager." (Hodayi, 1989)

Children's book illustrator should not move out of context, because will fail the main purpose of the book that is being read.

Thus, images must help in an appropriate way to transfer the message of writer well and of course, this does not mean that the character of illustrator is ignored or writer or is placed in service, but it makes that the ability and talent of Illustrator are used along with creative power and due to his/her interest, select a special genre for Illustrations and can illustrate with any style or genre that loves and with any tool that wants for the story (Siansiolo, 2001).

The relationship between form and content in illustration

Illustration means showing the meaning and qualitative terms. But the "form" meaning "image" can never show the quality immediately. Then for better expressing qualitative terms, the "image" should be translated to sign of a "little bit" mark. In this definition, intangible factors governing the story through image are converted to quite tangible and objective factors and acted upon, the first task in the imaging is paying attention to the " visual expression capabilities," which is how far been able to bring the story or topic.

Certainly, illustrator, before anything, should care intangible factors in writing and this is a commitment that exists fundamentally in the illustration. «Commitment» to the text's content and theme of the work is the base of art imagery. On the other hand, we cannot ignore the role of "tangibles" factors. These factors show the image structure of a text through "techniques".

Imagery and concepts related to war

War, in addition to bringing great destruction, causes many changes in the culture and art of the time. In a society where war happens, art in the community is affected by the war and pen along with the gun puts a foot into battle and sometimes creates epics that can be more effective than any weapon in the war.

The close relationship between art and war in the communities we face war. Influencing artists such as Picasso and earlier Gouya with the war effects and clearer of all, the Iran-Iraq war and influence of Iran's painters direct all expressing eloquent in this respect.

But the impact of war on art will once more be made as assault against the values of a nation occurs and in fact, the cultural and ideological defense occurs. And the eight years of sacred defense also include the great themes of sacrifice, martyrdom and heroism in which nowadays in regret of having such concepts. So this great task is under the responsibility of artists who are committed for art messaging.
Since the 1980's, Iran faces the war as a social phenomenon that raised new issues and concepts and children whose fathers were away from them or forever away, or lost their homes and their lives and other problems that the war imposed on the community.

"War. Name (Fatah J) battle, war, fighting and the battle between some people or the forces of two countries " (Mire mad)

The phenomenon of conflict is an issue that since the beginning of human civilization is along with human beings sometimes battle to earn more points and sometimes for that the enemy is obligates to follow his own goal.

1.68% of the story books are about the Holy Defense issues and in fact, stories about the war is limited and there are a number of children's books of poetry and painting published about the war.

According to visualizing concepts in stories that directly or indirectly has raised the war we investigate the imagery of the relevant concepts, such as parental separation grief, testimony and war.

In this work, being away from his father and the grief of that is illustrated in an abstract super simple story, yet smooth with pleasant and simple paintings, smooth and with nice paintings and illustrations. Dadgar with the prettiest and easiest way, illustrate the little girl sadness, of course, a good text has a considerable role in achieving this success. In the absence of a father, a bird is in the cage, do not eat water and seeds and in his presence, bird is released.

War stories are usually illustrated indirectly in these concepts such as "curly hair", Illustrator: Taghavi (1985); O Ibrahim, Illustrator: Khaef, (1985); Khandaneh, Mohammad Reza Yousefi, Illustrator: Shahdad.

In the book "O Ibrahim" which has a fascinating story, Ibrahim is an old shoemaker in a city at the front line of war and with sacrifice, repairs the fighter's shoes and eventually becomes martyr at the
bombing. Image provided from his testimony with colors close to brown, while he landed shows the death and not testify. (Figure 3)

Figure3. O Ibrahim, Illustrator: Khaef

LITERATURE REVIEW
WITNESS
Contrary to what in the West in recent decades is advertised and applied as little as possible, our stories of the sacred defense for the children and youth, do not include a lot of events and scenes of disasters and incidents of violence.

In a considerable part of these stories, we see testimony or injury of a family member, relatives, friend or related person to the children and adolescents or the population of a region in the story. In a batch of these stories, the child or adolescent is hero and becomes martyr as a result of enemy air strike or during a battle in the battlefield. One of the most striking and most documented examples of this is Hussein Fahmideh, a thirteen year old teenager who by taking grenades at his waist and throwing himself under the enemy tank created a fantastic epic and becomes famous for everyone. The greatness of his work so much that Imam Khomeini told him leader of himself and the others (Sarshar (Rahgozar), 225, 2002-227)

Figure4. Thirteen-year-old leader- Hadith Nineveh computer unit

VETERANS
One of the most striking issues and consequences of war is the subject of veterans. So that if a lot of problems and the debris of war are ended during the years or eliminated and forgotten, symptoms and physical and psychological consequences of injury are raised, because the children are much less face war and battle with the enemy and naturally, the number of stories of this kind and the child or adolescent heroes. Instead, we see the stories whose heroes in the air strikes, missiles or artillery enemy to residential areas are disabled and out of order. While in a bunch of these stories, the veteran character is the father or an older member of the family.

In Sacred Defense literature for children and teenagers, this issue is usually manifested in four forms:
1) Veteran of child or adolescent hero due to the bombardment of the area and his location and residence in the back or within the case
2) Disability of father and someone close to teenage in the case and its impact on his life and his family
3) In the third kind of this kind of works, the protagonist or his close relatives are not veterans. But because they feel that they are not able to do important work to help the Sacred Defense stream, decided that by doing service for a veteran pay their liability to them.
4) In the fourth type, a veteran, with the conduct and behavior, affected people and will change him.

It is natural that the main theme of the first and second of these stories is how the child or adolescent adapt with different stages of coping with the new situation emerged due to their disabilities for himself and his father or ..., or probably how to overcome weaknesses and problems by the relatives of veteran and to minimize the negative impacts of this situation on family life and their professional routine. (Sarshar (Rahgozar), 234, 2002 - 233) (Figure 5)

**Figure 5.** Like Dad's eyes – Parviz Eghbali

**FREEDOM**

Until the last years of the war, especially in terms of the people who lived in the far away from the field of battle, and some had never seen war closely, capturing by the enemy was absurd and perhaps counter-value. In the war line, for many years, the general trend was the same. So that, a number of our fighters prefer to either kill or be killed and they prefer testimony rather than the bondage to the enemy.

In other words, they consider capturing as disgrace for themselves. For the same reason, we have seen that at the end of war, the total number of about Iraqi POWs was 57,000, but Iranian POWs was 39,000. While we know that until the end of the eight-year Sacred Defense, Iran's population was about three times the population of Iraq and our side, due to world's total arms embargo for the Islamic Republic of Iran, as well as the enthusiasm of our faithful people to participate in the defense of the country, relied far more on human resources.

In this way, and naturally, a number of Iranian forces caught in the grip of Iraq should be two to three times more than Iraqi prisoners. But we saw that it is not done.

In other words, if for no other reason over faith, courage and self-sacrifice of the Iranian forces, and their belief to the right way looking for, also, their hatred of the aggressor, corrupt and bloodthirsty ruler regime of Iraq did not exist, by the brief view to the official statistics, clearly, this issue is shown and proved. Meanwhile, another reason for the Iraqis military tendency to being captured by the Persians was the good and human Islamic manner of our warriors with enemy POWs. (Sarshar (Rahgozar), 246, 2002-245). (Figure 6)
STORIES WITH GIRL HERO

Iranian girls, especially from a young age find less realistic picture of them in the literature. This is a big failure and has caused concern; And perhaps one of the most important factors for early adoption and of course damaging of our teenage girls to adult fiction is the same shortcomings. This issue that what are the causes is an independent discussion. If the holy defense stories are often related to boys, it suffers one-dimensional aspect and perhaps the most important causes are the same reasons that make problems for all children's literature. But besides that, fictions of war in other countries have faith and culture different situations with us referring one to one and armed conflict entered spontaneously and inevitably leading male character. Since a significant part in the holy war stories for children and adolescents is related to combat operations, boyhood (read masculinity aspect) in this branch of the literature, inevitably, has been more pronounced. Sarshar (Rahgozar), 331, 2002-333). (Figure 7)

FAMILY IN THE ABSENCE OF THE FATHER

The absence of the father from the home and family, to attend the fronts of war, or perhaps testimony or his captivity in this way created economic and psychological problems especially for the survivors that sometimes large and deep. Sarshar (Rahgozar), 305, 2002). (Figure8).
Figure 8. Pending for testimony, Sadegh Sandoghi, technique of metal pen

**REVIEWING CHILDREN’S BOOKS SUBJECTS WITH HOLY DEFENSE TOPIC BETWEEN THE DECADES OF 1980s TO 2010s IN IRAN**

<table>
<thead>
<tr>
<th>Work theme</th>
<th>Executive technique</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hand print</td>
</tr>
<tr>
<td>Harmony of images with text</td>
<td>Harmony Pictures with (techniques) without text</td>
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<tr>
<td>Divine intervention at the front</td>
<td>Stories with mythological aspects</td>
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<tr>
<td>No.</td>
<td>Title</td>
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<td>--------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Sunshine House</td>
</tr>
<tr>
<td>2</td>
<td>Keihan Publishing</td>
</tr>
<tr>
<td>3</td>
<td>Hadith Nineveh publication</td>
</tr>
<tr>
<td>4</td>
<td>Shoko ofeh Books</td>
</tr>
<tr>
<td>5</td>
<td>Payam Azadegan publication</td>
</tr>
<tr>
<td>6</td>
<td>Mousavi Publications</td>
</tr>
<tr>
<td>7</td>
<td>Sarir Publicatio</td>
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<tr>
<td>8</td>
<td>Artistic Center of ads organization</td>
</tr>
<tr>
<td>9</td>
<td>Congress commemorating the martyrs</td>
</tr>
</tbody>
</table>
CONCLUSION

As Aristotle stated: "without picture, thinking is impossible"

Never prior knowing the audience, Illustrations begins. Knowing your audience is crucial in delivering a successful illustration. Illustration success lies in the nature of the message and the art of conveying a message.

Therefore, methods and tools that can be used to convey the message to the audience help interpretation and understanding of the subject of the story so much.

Illustrations for each age group should be proportionate to knowledge of the children at that age, because the psychological needs of children at different ages are various. In choosing this topic for illustrated books, it should be noted that audiences in which age group and the subject should be illustrated by efficient and attractive technique to according to the psychological needs of children.

Thus, the findings and conclusions of this paper are as follows:

In many illustrated books reviewed in this study between the decades of the 1980s to 2010s using analog methods and watercolor techniques, delivers the message to the audience well, but on the other hand part of the book illustrated with digital methods have not been successful in achieving their goals.

One of the reasons is its inability to implement analog and digital methods of illustrators to convey the message to the audience the story, i.e. the child.

In these cases, 8 cases was considered using analog methods and techniques of watercolor as having special executive features among artists rather than other techniques and creating imaginative style, emotional and subtle spaces as special feature of childhood and three carried out samples have been investigated by digital techniques.

Special features of the illustrated books are provided in a summary table.
In Table 2 by presenting the issue of holy defense image books containing martyrdom, veterans and prisoner etc. and employed techniques, i.e. the most important cases including watercolor, crayon, Akolin, metal pen and digital techniques and then bringing up the coordination of images (techniques) with text and coordination between images and audience, but part of the books have not been successful.

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ANALYSIS OF THE PHYSICAL SPACE OF HIGHER EDUCATION WITH AN EMPHASIS ON SOCIAL AND CULTURAL FACTORS

Maryam Ebrahimi
Master at art research, Islamic Azad University, Yazd branch, Yazd, Iran.

ABSTRACT
Educational environment as one of the most important urban spaces should be taken into consideration. Obviously, architectural features of educational units are considered an important factor affecting the success of the educational structure. This study analyzed the space of higher education with an emphasis on cultural and social factors. Research methodology is dealing with the problem and field study. In other words, this research is an applied research and it is the kind of descriptive and analytical. The study population included students in different courses at Iranian governmental universities and professors and experts in these centers. Research findings showed that independent variables such as naturalism, amount of spatial coherence and the availability of space were studied with the dependent variable of attitude towards improve educational quality. Naturalism and spatial coherence variables compared to other variables had the highest correlation with the improvement of educational quality. Moreover, it became clear that there is a conflict between the status quo of physical spaces in universities and cultural perspectives and performance of the students. Furthermore, according to the results obtained from professors and experts, we can say that policymaking at the macro level in relation to the cultural policy based on cultural principles and culture of students, compliance of spaces in universities with traditional and modern culture, creating spaces with Iranian and Islamic identity and create spaces for security, safety and welfare of students are the most influential ideas on improving physical space in order to improve students' cultural and social issues.

Keywords: physical space, educational environment, Identity, creating balance

INTRODUCTION
Since the 1960s, there was widespread criticism toward modern designs. The critics believed that these plans are effective on the cultural, social, traditions and historical factors and climate issues. The contrast between modern architecture and social processes and spatial behavior within it causes ordinary people and consumers change plans in order to meet the space needs. And the needs that the original designer has not paid attention to them, therefore this kind of spatial interventions were carried out regardless of the plan proposed by the designer. Thus, in the early ’70s, the contextualism was brought into architecture in which the design was performed according to the existing historical and social structures and in cultural and human context (Qobadian, 2005: 240). "Estimating the social consequences of the process of analyzing (predicting, estimating and rethinking) and managing unintended and intended consequences of planned interventions (policies, programs, plans and projects) for the human environment and any process of social change is the result of these interventions, so as to create a more fair and sustainable physical and human environment»(Venclay, 2002: 387). Despite the passage of more than four decades of these global developments, observations and studies in our country have shown that terms and physical dimensions should be more considered in designing and manufacturing different areas, especially the educational facilities that are necessary to prepare the next generation. Few studies conducted, have failed to provide an appropriate space to be able to respond to all requirements.

With the arrival of students to the university environment, individuals are faced with new experiences. On the one hand, with the formation of social Identity and changes in personal identification, this educational level has become a transitional stage which needs a special attention. University environment provides different experiences, which draws the attention of students to the identity and
forcing them to think about alternative solutions related to identity. Since a person, in these conditions, absorbs new knowledge, the phenomenon of "internalization" occurs (Shilanan, 2010: 53). The internalization is "when a person trying to adapt to environmental structures through integrating it with his own structures" (Haji Arbabi and Safarian Tusi, 2008: 38). This phenomenon has a kind of tension in which a person would be more vulnerable in the face of critical situations.

Prevalent intellectual tensions among this population are the conflict between traditions and familial beliefs and new environments with college friends, relationships with the opposite sex, concerns related to field of study and future employment (Bagheri, 2006) that causes stress and intense excitement in this population and provides a basis for cultural conflict, problems of personality and identity crises and may even lead to suicide, drug addiction, moral corruption and the like. While in some academic disciplines that are less welcomed, the students are less motivated because of the absence of career prospects and lack of sufficient knowledge of the field of study. Interestingly, disciplines which are less welcomed by the student, have a greater impact on the future of the country and their positive and negative effects are more extensive. So, the students in this field needs to identity construction. Physical space is one of the factors that affect the intensity in these cases, As far as some experts believe humans are affected by space, rather than affect it (Lotf Ata, 2008: 73). Synchronization phenomenon of "change and the formation of the identity of the person" at the age requirements and other various factors causing the crisis of identity and cultural problems that led many student community must be answered and suitable approach to be taken. On the other hand, research suggests that space and the built environment has a significant influence on the formation and structure of the intellectual and cultural identity and lifestyle and can result in the formation, intensification or reduction of issues that affect human social and psychological aspects (Mortazavi, 2001) (Pourhossein, 2011: 27). However, the impact of physical space has been less used in response to these needs.

METHODOLOGY
The methodology used in any part of the research varies depending on the nature of each chapter. Library method and previous studies conducted at universities, university counseling centers and experts and deputy directors of cultural and university students were used in order to identify individual characteristics, personality and common cultural and psychological dimensions of the student community. Documentary and library method has been used to study the theory and history of studies. The method has been used to pathology of spaces in universities that should be placed in the descriptive - survey category. It is a survey, because researchers tried to interview experts in order to collect data and it is sectional, because the results may change over time. Comments of the experts in this field were collected in order to carry out the pathology of the status quo of university spaces, and the results were performed through content analysis. The experts and professors of 5 public universities, their technical managers and construction experts of the Ministry of Science, Research and Technology were used in order to achieve proper physical ideas on improving the social and cultural dimensions of space through body design and organizing educational space. Survey method among the students of the same five universities in Tehran has been used in order to evaluate the desirability of cultural spaces in universities in order to achieve the opinions of the interviewing and all this parts are cross-sectional analysis.

Research conducted in 10 universities where the pathology of physical spaces, surveys and interviews of experts and students will be carried out. Snowball method has been used in the selection of university professors. In this way, each expert should introduce another expert in this field and this process continues. Since this study was conducted using the best experts in the field, we interviewed 10 persons and review and summation were carried out through content analysis.

THEORETICAL FOUNDATIONS
Techniques to create satisfaction in educational facilities and user satisfaction with the educational environment leads to development of their talents and greater returns on educational centers (Mortazavi, 1997). About consent of space, we can say that architecture is effective in student satisfaction with educational centers. Techniques to create satisfaction in educational facilities include:
PHYSICAL COMFORT
Satisfaction through specific physical parameters such as temperature, view, noise, location, number of rooms in the building will be measured. The qualitative aspects of the environment is considered as one of the parts of the human-environment relationship and satisfaction with environment (Rafieian and Khodaei, 2009).

THE SENSE OF BELONGING TO SPACE
The sense of belonging to the learning environment is the most important needs. One of the effective strategies to enhance students' sense of belonging to a learning environment is to use "pattern of school as home", which means that using elements of interior design to induce students feel at home (Kamelnia, 2010).

ENVIRONMENTAL ATTRACTION
Beauty and interior designs: User influence on the growing users is broad and seriously emphasised by the investigations. This poetic relationship is realized when we say that children need nutritious food, but these substances are not absorbed only through mouth, but also our senses can absorb all this materials required (Dey, 2007).

ENVIRONMENTAL PERCEPTIONS
Environmental perceptions is the basis of satisfaction with the quality of environment. Environmental perception is the process through which human chooses the required data based on the needs of environment (Motallebi, 2001: 56).

PSYCHOLOGICAL SECURITY
Hierarchies and defensible space have a supportive aspect. These two induce a sense of security, which leads to a feeling of safety and security that are vital in the age of growth (Dey, 2007).

BODY AND PHYSICAL SPACE
Physical elements create a sense of belonging through harmony and meet human needs in place. These elements are very important in the design of each of the variables of color, shape, texture, scale and type of organization based on human needs and providing the kind of activities in space. As an important part of the body of cities, views and urban housing should be designed, so that it can increase the sense of belonging in viewers (Motallebi and Foroozandeh, 2011).

PHYSICAL BELONGING TO LOCATION
This type of belonging derived from elements and components as part of the process of identifying the physical location and human identity. Richter and Lavarkas point to the important role of the physical belonging accordingly, a person remembers environment along with the physical elements in shaping the meaning of belonging (Javan Foroozandeh and Motallebi, 2011: 32).

THE ROLE OF THE PHYSICAL ENVIRONMENT ON THE DYNAMICS OF EDUCATION
In most countries, especially in our country, education was against the spirit of research and exploration. Rather than educate, the educational system tries to inform students from the outcome of other people's investigations. This quality is associated with the learning environment in the educational centers, not just educational program. Learning environment in educational institutions been created according to classical principles, inject information and data in minds and is not designed to search and discover new content. In adulthood, this laziness is observed with reluctance to research and investigations and training centers also believes that "understanding needs to hearing and learning is achieved by memorizing". In this environment, the basis of work is Training and there is no education in it. In this case, teacher absolutely obeys from the curriculum and the teacher is the main axis and students are quite impressed by the teacher. In the training process, talking and listening are combined and there is no search and discovery in this program and tools and facilities have not been provided for this purpose. In addition, other spaces such as corridors and courtyards of educational institutions do not have a fresh environment and in accordance with mood of users. According to modern ideas of psychology, the human mind naturally tends to searching and loves exploring even without external factors such as punishment and encouragement. Based on these
findings, the human soul is full of questions and ambiguities by which he tirelessly tends to research and learning. On this basis, educational environment fits perfectly with the spirit and human nature and tries to guide the searcher power to the original meaning in anything. Thus, in an advanced learning environment, the researcher is responsible for training and he tries to guide them towards research, experience and testing with other classmates. This is the same phenomenon is known today as "student-centered learning environment" in which a person trained by the environment and with all its features, not only by the teacher. The first feature of this environment is to diversify factors and teaching methods, which provides vast possibilities to recruit tools and educational technologies. Science can be better understood through observation compared with descriptions and hear. The second feature is that training in this regard should be considered as a collective work and should be done through collaboration. In this case, social personality can grow through learning and he will be ready to participate in social activities. The third characteristic of this environment is that the research is important as much as the final result and research methodology and finding answers are also considered as an effective factor in mental development (Khosrowjerdi and Mahmoud, 2014).

RESEARCH BACKGROUND

RESEARCH CONDUCTED WITHIN THE COUNTRY

Mousavi (2015) conducted a study entitled "Spatial analysis of crime hotspots in the neighborhoods of Yazd city with an emphasis on cultural programming".

Mahdavinejad and Pourfathollah (2015) conducted a study in conjunction with the new lighting technologies and promote a sense of belonging of citizens in the urban body in Tehran.

Khosrowjerdiand Mahmoodi (2014) conducted a study entitled "School, a safe home to live and learn".

Dadres and Sharifi (2014) conducted a study on the establishment and evaluation of academic quality and the conditions for quality of higher education in Tehran University.

Mousa Kazemi et al (2013) examined the spatial performance in higher education institutions in the sustainable development of urban culture in the regions 3 and 19 of Tehran metropolis.

Jaydari and Jafarikhah (2013) examined the physical components of learning environments and their impact on user behavior.

Javadi Bora et al (2013) examined the factors that affect the quality of distance education (case study: the Graduate Center of Tehran PNU).

Azemati et al (2012) examined the environmental factors affecting students' satisfaction from educational spaces.

Davoudpour et al. (2011), in an article titled "improvement and renovation of old urban strategy towards achieving the physical dimensions of sustainable urban development (Case study: old texture in Sajadieh Alley)" examined the reform and renew this neighborhood through a new perspective and with a focus on sustainable development.

Bazargan (2007) in a study entitled "structuring for assessing the quality of higher education in Iran" came to the conclusion that one of the most important success factors in quality assurance in higher education is providing an adequate infrastructure to assess and improve the quality of higher education.

Rahnamaei (2004) in his book entitled "optimal distribution of universities and scientific centers through looking at the cultural geography of Iran "examined the spatial functions and cultural heritage in urban areas and provided a scientific solution to the spatial distribution pattern and their location.

RESEARCH CONDUCTED OUTSIDE THE COUNTRY
Paul et al (2013) conducted a study entitled "Crime prevention through environmental design in United Arabic Emirates".

Yupu et al (2012) in an article entitled "Sustainable development of cities in Heilongjiang Province based on the AHP method" came to the conclusion that economic development and environmental quality are the most important indicators that are effective on sustainable urban development in this province.

Lewicka (2009) conducted a study entitled "place of attachment, place identity and location" and belonging to the location described as an extension of the 'I'.

Wiewel & Perry (2008) writes in his book "World Universities and urban development": in recent years, research on the role of universities in the development of cities in the United States have been increased.

Dias and et al (2007), in Brazil, studied the role of spatial arrangement in the development of specific users' behaviors. Research results showed that the spatial and social factors contribute to the lack of security and increase crime, due to their effects on the environment and spatial components of urban open spaces.

**INFERENTIAL STATISTICS**

First hypothesis: It seems students who have high naturalism, believe that green space has a great impact on educational quality.

According to the table below, in the test conducted between two variables, there is a strong correlation between naturalism of students and attitude to improve the educational quality. Given the amount of \( r = 0.406 \), this is significant at the level of error of less than 0.01 because the obtained sig is less than 0.01. So \( p < 0.01 \) and the hypothesis is confirmed, which means that there is a significant relationship between these two variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>number of samples</th>
<th>Correlation Coefficient</th>
<th>naturalism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes towards improve educational quality</td>
<td>450</td>
<td>Pearson coefficient ( r )</td>
<td>0.406</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Significance level</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Second hypothesis: It seems that students whose attitudes to the spatial positions is associated with a high spatial coherence, believe that spatial coherence has a great impact on educational quality.

According to the table below, in the test conducted between two variables, there is a strong correlation between spatial coherence of students and attitude to improve the educational quality. Given the amount of \( r = 0.119 \), this is significant at the level of error of less than 0.01 because the obtained sig is less than 0.01. So \( p < 0.01 \) and the hypothesis is confirmed, which means that there is a significant relationship between these two variables. This relationship is as follows: People who believe that the integrity of the environment is important, have a better attitude to improve the educational quality. This indicates that the cohesion has a positive and meaningful impact on the attitude to improve the educational quality.

<table>
<thead>
<tr>
<th>Variable</th>
<th>number of samples</th>
<th>Correlation Coefficient</th>
<th>Spatial coherence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes towards improve educational quality</td>
<td>450</td>
<td>Pearson coefficient ( r )</td>
<td>0.119</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Significance level</td>
<td>0.017</td>
</tr>
</tbody>
</table>
Third hypothesis: It seems that students who believe that spatial access is so important for individuals, believe that spatial access has a great impact on educational quality.

According to the table below, in the test conducted between two variables, there is a strong correlation between spatial access of students and attitude to improve the educational quality. Given the amount of $r = 250$, this is significant at the level of error of less than 0.01 because the obtained sig is less than 0.01. So $p < 0.01$ and the hypothesis is confirmed, which means that there is a significant relationship between these two variables.

**Table 3. Pearson correlation coefficient between spatial access and improve educational quality**

<table>
<thead>
<tr>
<th>Variable</th>
<th>number of samples</th>
<th>Correlation Coefficient</th>
<th>Spatial access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes towards improve educational quality</td>
<td>450</td>
<td>Pearson coefficient r 250.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Significance level 000.</td>
<td></td>
</tr>
</tbody>
</table>

Forth hypothesis: It seems that students who have higher education, believe that education has a great impact on educational quality.

According to the table below, in the test conducted between two variables, there is a strong correlation between education and attitude to improve the educational quality. Given the amount of $r = 260$, this is significant at the level of error of less than 0.01 because the obtained sig is less than 0.01. So $p < 0.01$ and the hypothesis is confirmed, which means that there is a significant relationship between these two variables.

**Table 4. Pearson correlation coefficient between education and improve educational quality**

<table>
<thead>
<tr>
<th>Variable</th>
<th>number of samples</th>
<th>Correlation Coefficient</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes towards improve educational quality</td>
<td>450</td>
<td>Pearson coefficient r 260 .</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Significance level 000.</td>
<td></td>
</tr>
</tbody>
</table>

Fifth hypothesis: It seems that students who are older, believe that age has a great impact on educational quality (the more the age, the more the educational quality).

According to the table below, in the test conducted between two variables, there isn't any strong correlation between age and attitude to improve the educational quality. Given the amount of $r = -0.55$, this is not significant at the level of error of less than 0.01 because the obtained sig is more than 0.05. So $p > 0.01$ and the hypothesis is not confirmed, which means that there isn't any significant relationship between these two variables.

**Table 5. Pearson correlation coefficient between age and improve educational quality**

<table>
<thead>
<tr>
<th>Variable</th>
<th>number of samples</th>
<th>Correlation Coefficient</th>
<th>age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes towards improve educational quality</td>
<td>450</td>
<td>Pearson coefficient r 055 .</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Significance level 276.</td>
<td></td>
</tr>
</tbody>
</table>
Sixth hypothesis: There is a relationship between gender and attitude to improve the educational quality.

According to the table below, the value of t is equal to -1.36, which is significant at 0.174, because sig is greater than 0.05. The averages of two populations are different just a score. As a result, this hypothesis is not acceptable, which means that there isn't any significant relationship between gender and attitude towards improve educational quality with 0.95 confidence.

**Table 6.** T-test for two independent groups between gender and attitude towards improve educational quality

<table>
<thead>
<tr>
<th>Variable</th>
<th>Gender</th>
<th>Average</th>
<th>Standard deviation</th>
<th>T</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes towards improve educational quality</td>
<td>Male</td>
<td>59.455</td>
<td>10.431</td>
<td>1.36</td>
<td>0.174</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>60.915</td>
<td>11.431</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Seventh hypothesis: There is a relationship between marital status and attitude to improve the educational quality.

According to the table below, the value of t is equal to 2.83, which is significant at 0.03, because sig is greater than 0.05. The averages of two populations are different. As a result, this hypothesis is acceptable, which means that there is a significant relationship between marital status and attitude towards improve educational quality with 0.95 confidence.

**Table 7.** T-test for two independent groups between marital status and attitude towards improve educational quality

<table>
<thead>
<tr>
<th>Variable</th>
<th>Gender</th>
<th>Average</th>
<th>Standard deviation</th>
<th>T</th>
<th>Marital status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes towards improve educational quality</td>
<td>Male</td>
<td>54.328</td>
<td>9.291</td>
<td>2.83</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>65.144</td>
<td>12.754</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Eighth hypothesis: There is a relationship between income status and attitude to improve the educational quality.

According to the table below, in the test conducted between two variables, there isn't any strong correlation between income status and attitude to improve the educational quality. Given the amount of r = -0.68, this is not significant at the level of error of less than 0.01 because the obtained sig is more than 0.05. So p >0.01 and the hypothesis is not confirmed, which means that there isn't any significant relationship between these two variables.

**Table 8.** Pearson correlation coefficient between age and improve educational quality

<table>
<thead>
<tr>
<th>Variable</th>
<th>number of samples</th>
<th>Correlation Coefficient</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes towards improve educational quality</td>
<td>450</td>
<td>Pearson coefficient r</td>
<td>0.68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Significance level</td>
<td>125.</td>
</tr>
</tbody>
</table>

**REGRESSION ANALYSIS**

Independent variables such as age, education, income, naturalism, and spatial coherence space access and the independent variables which is attitude toward improve the educational quality were entered in a regression equation using concurrency manner.
Then, the coefficients B, beta, standard error, the value of T, significant sig and multiple regression will be shown for the independent variable of regression.

**MULTIPLE REGRESSION**

The first correlation is zero-order, which shows the correlation between the variables without the control variable. Below, the zero-order correlation for four variables of educational level, the amount of naturalism, spatial coherence and spatial access is high. But the amounts for other variables as age and income is low. Partial correlation: it is a statistical correlation through which one or more variables can be controlled, that shows the correlation between dependent and independent variables after removing the correlation between the two variables with independent variables. As can be seen, the amount of the four variables of educational level, naturalism, spatial coherence and spatial access is high. But the amounts for other variables including age and income is low and variables of naturalism (.251) and spatial coherence (.408) compared to other variables, have the strongest correlation with the attitude to improve the educational quality. This has the highest effect in the beta coefficient of the regression with (.340) and (.544). Half-denotative correlation: this correlation is a statistical control through which one or more variables can be controlled (Sarmad, 2005). This index shows the linear correlation between the independent variable after excluding the effect of other independent variables on the dependent variable. The results of this correlation for four variables of educational level (-.104), naturalism (.184), spatial coherence (.369) and spatial access (.130) is high and the variables of age (-.086) and the amount of income (.029) are low level. But this correlation because it eliminates the linear effect of independent variables on each other, so the correlation is less than the two previous relationship. The important thing in these correlations is their amount for independent variables and its amount in the two zero-order correlation of the partial and half-denotative for the independent variables affects the attitude to improve the educational quality. If so, then we explain the real relationship of these variables in the regression:

The regression results is as follows: The impact of independent variables on the dependent variable is shown using coefficients B. And beta coefficient standardized regression coefficient of each independent variable on the dependent variable and specifies the relative contribution of each independent variable in the model. These factors show that the impact of the four variables "education, naturalism, and spatial coherence and spatial access" is significant on the attitude to improve the educational quality with error less than 0.05% and 95% confidence.

Table 9 shows the summary of regression model analysis. As can be seen, R is equal to 0.615 and shows that there is a good correlation. F value is significant in the values smaller than the error level of 0.01. And it can be concluded that research regression model consisting of six independent variables is a good model and independent variables explained 33% of variance in attitudes to improve educational quality (r = .24),that is a good amount of variance estimate for the attitude to improve the educational quality.

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>B</th>
<th>S.E</th>
<th>Beta</th>
<th>T</th>
<th>Sig.</th>
<th>Zero order correlation</th>
<th>Partial correlation</th>
<th>Half-denotative correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>education</td>
<td>303</td>
<td>147.</td>
<td>096</td>
<td>3.160</td>
<td>030.</td>
<td>119.</td>
<td>104.</td>
<td>091.</td>
</tr>
<tr>
<td>naturalism</td>
<td>340.</td>
<td>092.</td>
<td>229.</td>
<td>4.686</td>
<td>000.</td>
<td>251.</td>
<td>184.</td>
<td>164.</td>
</tr>
<tr>
<td>Income</td>
<td>054.</td>
<td>094.</td>
<td>035.</td>
<td>578.</td>
<td>564.</td>
<td>193.</td>
<td>029.</td>
<td>026.</td>
</tr>
<tr>
<td>Age</td>
<td>902</td>
<td>527.</td>
<td>079.</td>
<td>1.710</td>
<td>088.</td>
<td>037.</td>
<td>086.</td>
<td>076.</td>
</tr>
<tr>
<td>Spatial coherence</td>
<td>544.</td>
<td>070.</td>
<td>355.</td>
<td>7.815</td>
<td>000.</td>
<td>408.</td>
<td>369.</td>
<td>374.</td>
</tr>
<tr>
<td>Spatial access</td>
<td>123.</td>
<td>048.</td>
<td>125.</td>
<td>3.575</td>
<td>010.</td>
<td>037.</td>
<td>130.</td>
<td>114.</td>
</tr>
</tbody>
</table>
Table 10. Summary of the regression model

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>Adjusted R²</th>
<th>F value</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>0.615</td>
<td>0.33</td>
<td>17.944</td>
<td>0.000</td>
</tr>
</tbody>
</table>

According to the regression model, educational level with the level of error less than .05%, the power of t (-3.360), beta coefficient (-.303) and with 95% confidence, there is a positive correlation with the attitude to improve the educational quality. According to this table, the spatial coherence (.355) has the greatest impact on attitudes to population policies. After that, there is naturalism (with beta coefficient, 340 that this amount of beta coefficient indicates that the per unit change in the naturalism variable, there would be a change in the attitude to improve the educational quality as much as 220 units).

So, we can say that spatial requirements include in these dimensions that have a positive effect on the attitude to improve the educational quality. When the dimensions be explained by individuals, the role of the attitude to improve the educational quality should be considered and this is affecting this attitude. So it is very important to consider the physical space of education and the educational quality. Spatial arrangement, location, exact settings and spaces in the learning environment are very important.

The age variable in the regression model with a significance level of 0.088 and the error level of 0.05% is not significant. In other words, the variable of age has no significant effect. But we saw in the correlation test that there is no significant relationship between age and attitude to improve the educational quality and this became insignificant after controlling the variables in the regression. In addition, the relationship between income and attitude to improve educational quality is not significant and it is more than the error level of 0.05%.

ANSWERS TO QUESTIONS

- What are the shared individual, personal and cultural features in the student community?

This group has specific characteristics such as individual identity and social concerns, conflict between different cultures and thoughts, anxiety and worry (being away from family, career prospects, family independence, marriage), diversity, idealism and expressing dissatisfaction (different approaches to the concept of justice), lack of knowledge about the field of study and sometimes lack of interest in the discipline, emotional maturity, sexuality, etc. Below, personality of students can be seen that have been obtained through the NEO questionnaire and extraversion has the maximum amount (the dimensions of personality: introversion, extroversion, openness to experience, openness, and conscientiousness).

In addition, the following results were obtained through distributions the questionnaires among teachers and experts:

The student community is young and this feature makes the personality characteristics and cultural influences and educational space must be able to respond to this need. Prevalent intellectual tensions among this population are the conflict between traditions and familial beliefs and new environments with college friends, relationships with the opposite sex, concerns related to field of study and future employment that causes stress and intense excitement in this population and provides a basis for cultural conflict, problems of personality and identity crises and may even lead to suicide, drug addiction, moral corruption and the like.

- Considering the present situation of spaces in universities, what are the performance and culture conflicts that students faced with them?

For this purpose, this issue was investigated by a questionnaire. Thus, we can conclude that there is a conflict between the present situation at universities and cultural perspectives.
- Are you able to provide a physical approach in giving identity to the spaces?

Location is one of the important part of people's identity. For a young student also has the function of identity and the physical spaces are also important for students. Elements related to identity are different for students. Thus, pay attention to the architecture of the university environments is very important in students' satisfaction or dissatisfaction. The first thing that catches the attention of a student is the physical changes in the learning environment. So, this place should have the signs associated with an academic environment. For example, universities should have different spaces for talking and conversation. In the other words, there should be possibility of dialogue in different groups. The authorities should also pay attention to creativity and spatial variation.

- What are the physical solutions in improving relations between human and environment on university campuses?

As mentioned above, university is not just an ordinary place. The concept of the university is various factors and events that are caused by human actors. There is a dialectical relationship between human being and the environment in which he lives. If this provide a more relaxed environment, these relationships will improve. Small and crowded environment can lead to anxiety and destroys the focus of students. Other effective strategies are paying attention to the psychological aspects of environmental design, adequate space for walking, taking into account the specific areas of cultural and artistic activities in the area and the use of interactive design in spaces.

- In terms of students, which problems should be addressed to enhance the educational quality and improve social interactions?

Students believe that green space, pleasant environment, cohesion, environment, access to the space environment are important priorities in order to improve the satisfaction of learning and improve social interactions. Independent variables such as age, education, income, naturalism, and spatial coherence space access were evaluated with dependent variable which was attitude to improve the educational quality. The amount of the four variables of educational level, naturalism, spatial coherence and spatial access is high. But the amounts for other variables including age and income is low.

- What are the experts' ideas on improving the space in universities with an emphasis on social and cultural issues?

According to the results obtained from professors and experts, we can say that policymaking at the macro level in relation to the cultural policy based on cultural principles and culture of students, compliance of spaces in universities with traditional and modern culture, creating spaces with Iranian and Islamic identity and create spaces for security, safety and welfare of students are the most influential ideas on improving physical space in order to improve students' cultural and social issues.

CONCLUSION

- There is a strong correlation between naturalism of students and attitude to improve the educational quality.

- There is a strong correlation between spatial coherence of students and attitude to improve the educational quality.

- There is a strong correlation between spatial access of students and attitude to improve the educational quality.

- There isn't any strong correlation between age and attitude to improve the educational quality.
- There isn't any relationship between gender and attitude to improve the educational quality.

- There is a relationship between marital status and attitude to improve the educational quality.

- There isn't any relationship between income status and attitude to improve the educational quality.

- The first correlation is zero-order, which shows the correlation between the variables without the control variable. Below, the zero-order correlation for four variables of educational level, the amount of naturalism, spatial coherence and spatial access is high. But the amounts for other variables as age and income is low. Partial correlation: it is a statistical correlation through which one or more variables can be controlled, that shows the correlation between dependent and independent variables after removing the correlation between the two variables with independent variables. As can be seen, the amount of the four variables of educational level, naturalism, spatial coherence and spatial access is high. But the amounts for other variables including age and income is low and variables of naturalism (.251) and spatial coherence (.408) compared to other variables, have the strongest correlation with the attitude to improve the educational quality. This has the highest effect in the beta coefficient of the regression with (.340) and (.544). Half-denotative correlation: this correlation is a statistical control through which one or more variables can be controlled (Sarmad, 2005). This index shows the linear correlation between the independent variable after excluding the effect of other independent variables on the dependent variable. The results of this correlation for four variables of educational level (-.104), naturalism (.184), spatial coherence (.369) and spatial access (.130) is high and the variables of age (-.086) and the amount of income (.029) are low level. But this correlation because it eliminates the linear effect of independent variables on each other, so the correlation is less than the two previous relationship. The important thing in these correlations is their amount for independent variables and its amount in the two zero-order correlation of the partial and half-denotative for the independent variables affects the attitude to improve the educational quality. If so, then we explain the real relationship of these variables in the regression:

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- In the summary of regression model analysis, R is equal to 0.615 and shows that there is a good correlation. F value is significant in the values smaller than the error level of 0.01. And it can be concluded that research regression model consisting of six independent variables is a good model and independent variables explained 33% of variance in attitudes to improve educational quality ($r = .24$), that is a good amount of variance estimate for the attitude to improve the educational quality.

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There is a conflict between the present situation at universities and cultural perspectives.

GUIDELINES AND RECOMMENDATIONS
According to the analysis made by the Delphi Group, the following recommendations be presented:

The most important solutions related to the physical environment in the academic spaces are as follows:

1. Naturalism which contains the following items:
   - Creating landscapes in educational spaces.
   - Creating green spaces designed according to the indigenous principles and standards of educational facilities.
   - Designing spaces should be able to induce psychological security.

2. Spatial coherence which contains the following items:
   - Suitable location for salons and sports stadiums in educational environments
   - Pay attention to Iranian-Islamic culture and identity.
   - Creating spaces based on traditional and modern culture
   - Creating open educable
   - Creating spaces for security, safety and welfare of students
   - Creating innovative and dynamic learning environment
   - Designing physical spaces based on local culture
   - Using color psychology in coloring educational environments

3. Spatial access which contains the following items:
   - Designing and building of certain and appropriate signs for access to different learning environments
   - Access to elevators and toilets on the floors of buildings and public places
   - Creating the appropriate equipment, such as car parks, taxicabs and special places to improve social interactions
   - Ease of movement and access to education and technology
   - In addition to students, the physical design must be suitable for all citizens.

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DISCOURSAL STUDY ON RENAISSANCE AND CLASSICAL PAINTINGS IN MICHEL FOUCAULT’S ARCHEOLOGICAL THOUGHT WITH EMPHASIS ON CONCEPTS OF “MADNESS” AND “REPRESENTATION”

Arash Eghbal Jahromi
Shamsolmoluk Mostafavi

ABSTRACT
Regarding art and its function, Foucault believes that it is created in relation to various sciences, organizations and other institutions of a society. Accordingly, he is not after the author’s intention or a final meaning within the work when faces neither a work of art, nor he believes in a theory like “art for art's sake”, which considers art as separated from the social context. Rather, he intends to analyze why and how a work is allocated to a special content? Or why a work could not be something different from what it is?. In other words, how the work of art becomes what it is in relation to other sciences and social institutions, and it is due to this functions that Foucault considers the artwork as a representative of a historical period; as he regards the painting “Las Meninas” by Velázquez as a representative of the classical era mindset, and also Hieronymus Bosch’s “The Ship of Fools” as a reflection of the concept of madness in the Renaissance era. By an emphasis on the writings of Michel Foucault’s archeological period of thought – specially “The history of Madness” and “The Order of Things” – this article attempts to study the drawings which he analyzes in relation to other sciences and institutions. Therefore, the present article takes the drawings of the Renaissance and classical era into consideration regarding to Michel Foucault’s ideas.

Keywords: discourse, representation, madness, renaissance, classic

INTRODUCTION
HIERONYMUS BUSH AND MADNESS DISCLOSURE IN THE RENAISSANCE
Foucault considers art as a statement\(^1\) that can display dominant episteme on an era. According to this belief, he has investigated artistic works in relation with other statements and subjects to be able to recognize existing actions and interaction sin a historical context and obtain the relations that can lead to formation of an episteme. Hence, artistic work is not considered separated from other statements. However, it has specific features compared to other statements. The specific feature is picturing intellectual space (episteme) of a historical period. For example, Velázquez's Las Meninas is called as the representative of dominant attitude on Classic Era.

According to the attitude, in order to gain unit of discourse\(^2\) in certain field such as psychology, biology or art or to investigate a specific subject such as madness during a historical period, one can study relations of statements of that era and gain a function of a statement. According to the discussions presented by Foucault in his discourse thought, he doesn't believe that a subject can be formed in certain time and can progress over the history. According to the principles, attention of Foucault was gained by

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\(^1\) Statement: according to Foucault, every meaningful issue is a statement. Hence, he has called artistic works as statements.

\(^2\) Foucault has considered unity of discourse as the process of changes in a subject, regardless of considering the changes interrelated or progressive.
the issue of madness and he indicates in assessment of changes and evolutions of the subject in "Madness History" that how a statement (madness) gains meaning in relation with other statements and gains different functions. He has indicated in this book that the subject of madness has possessed unique meaning in the Renaissance, which is absolutely different from attitude of other periods in regard with the issue, as a result of actions and interactions of different statements and subjects. As it is clear, a psychological attitude is dominated on madness in the modern age and the phenomenon is considered in relation to institutes such as madhouse. However, according to discourse notion of Michel Foucault who tends to indicate ruptures over different ages, the phenomenon has a completely different meaning in the Renaissance compared to attitude of the current age.

In order to demonstrate the evolutions about madness and to indicate epistemological ruptures, Foucault has studied documents and evidence gained from Renaissance. One of the most important statements indicating madness and its function in Renaissance is Painting by Hieronymus Bush as "The Mad Ship" (painting No.1). In order to understand the painting, Foucault has studied different documents and evidence including political, literary and religious works. In fact, he has been aimed in discovering the inter-statement relationship that caused formation of madness phenomena with its specific historical meaning. In these documents, Foucault found that placed where mad people used to be maintained were places that in pre-Reissuance age, lepers used to be sent there to be isolated from other people. He refers that scope of Christian had about 19000 houses for lepers. However, a very important issue is that isolating lepers from ordinary people used to give them divine holiness and demonstrate the presence of God. In Vienna Church, the they used to read this statement for lepers: "My friend! This has been the intention of God that you suffer from such pain. God has punished you because of your bad actions at the world. In fact, God has presented his infinite thanks to you". Another evidence to prove this important subject is Pieter Brueghel painting titled "Journey to Calvary". In this painting, those lepers are pictures that are holy sign of devil in view of Foucault, so that people watch rise of Christ and his followers to Calvary Hill.

At the end of Medieval, leper houses were emptied and Foucault believes that this has been the result of actions and interactions of discourse and not finding a treatment method to treat lepers. It means that rejecting them from the society could decline their population, with emptying the houses at the end of Medieval, mad people, the poor and homeless and criminal people replaced instead of them and same as Medieval, the rejection used to bring them redemption for both rejected people and rejecters. In fact, madness was a way to join to population of church and the holy thought was used this time for mad people.

In Renaissance, "The Mad Ship" was common and it had possessed not only paintings, but also content of literary works and political declarations. By that time, The Mad Ship had derived its content from Journey of Argunts and gained in Renaissance another meaning as a result of inter-statement relations. Many authors like Symphorien Shampier, Jacob Van Stforen and Josse Bade have considered the content in their works by that time. Foucault has considered political evidence in addition to literary and artistic works and has found that by 1399 at Nurnberg, several sailors were taken to service to clean the city from mad people. They used to transit the mad people by ship. However, an important issue here is that taking them out of city has not been for security and this issue has been a ritual issue. This is because; places like

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3 Foucault, 2006: 11
4 Flamany painter in the 16th century depicting man's tragic situation
5 Ibid, 11
6 Ibid, 12
7 The Greek mythology heroes who were aboard the ship in search of the legendary Fleece
Saint-mathurin and Gheel village have been places to trap the mad and were also pilgrimage places. Hence, they had a symbolic ship: "symbolic ships to transit the mad seeking wisdom".

The iterative content of madness in literary works and political documents refer to a unit discourse in view of Foucault. He says: "the imagination was apparently be cleared by the mad in a very homogeneous and uniform manner in different imaginary and literary fields. Painting and writing used to take inspiration from each other and affect each other constantly; here image and there picture." Narration of unit content in literary and painting works indicates that there is certain discourse configuration that can form specific attitude to madness in renaissance, in which madness is parallel to divine order and another important issue is that the mad person has been considered as wise person with abilities that ordinary people had no access to them. Hence, in painting of Hieronymus Bush, Tree of Knowledge at the Garden of Eden is cut and tower of the mad ship is made. Only mad people could have eternity of knowledge and wisdom person was only a part of the knowledge.

GREAT IMPRISONMENT AND ARTWORK
Madness has absolutely different concept by the other periods and in relation with other statements and subjects. For example, by 1657 that is mentioned by Foucault as "Great Imprisonment", a public hospital was established following order of king and a new form of discourse and social institute was formed. According to new emerged institutes, the mad people used to be cared to meet dangers threatening they would be imprisoned for this purpose. This issue indicates that madness was not holy anymore and the new reaction to the mad that was sign of new discourse led to production of different artistic works about madness. The different content can be observed in works of Francisco and Marquis de Sade. Foucault believes that due to the imposed imprisonment applied on these people by power institutes in classic era, the mad were imprisoned behind closed and tall doors of asylums and no sound could reach their ears and their soul's cry could be heard just in works of artists like Goya and Marquis de Sade (figure 2).

MADNESS OF DON QUIXOTE AND BREAK FROM THE RESEMBLANCE SYSTEM
Foucault has detected another type of madness in classic era and has presented it in relation to typology. He believes that in renaissance, resemblance had formed Western Culture and Thought. Land used to reflect the sky and plants used to hide some secrets in their stems that were useful for people. This issue is demonstrated in painting as the technique of perspective, so that painters used to picture the world similar to what they could see. In fact, the world of arts was seeking resemblance with the outside nature based on discourse system of that time. According to resemblance system by that era, objects used to be considered as objects to be similar to other objects and the resemblance between objects used to form a chain in the world.

It should be mentioned that how the resemblances could be explored? Foucault believes that existence of signatures on objects could enable the resemblance between them. Now, the question is that what are signatures in renaissance? In fact, signatures were things that could visualize resemblances. The signatures were present in surface of objects and resolution of resemblances could be observed through them. For example, resemblance of walnut with human brain could be considered and this was the reason that they believed that walnut is useful to kill headache. This indicates that perception system of renaissance is nothing other than a system of resemblances. Hence, language used to be considered
similar to objects and a reality was also considered for it. This is because; in this thought, language was present in system of resemblances and signatures of the world and hence, it was considered as an object\textsuperscript{15}.

In this field, Foucault believes that signatures are mirror, in which the objects shine and reflect their image on another object\textsuperscript{16}. Hence, seeking to find a meaning is transparency of a resemblance. Seeking the rule dominated on signatures is exploration of objects that are similar to each other\textsuperscript{17}.

The mentioned issues have been presented in regard with semiotic system of renaissance to recognize the existential reason of perspective in painting of that era and to analyze the difference of knowledge system of renaissance and classic era based on signatures. In classic era, the resemblance system was not dominated and language was not considered as an object, but also language possessed another position and was considered as signature of representation of objects. Therefore, the separation between language and the world was happened\textsuperscript{18}.

With the beginning of classic era, a dual system of Signifier and signified was formed and language was considered as a representative that was referred to the surrounding environment; although it had no resemblance with the world anymore. The question here is that according to worldview of classic era, how language could communicate the thing referred to it? To answer the question and to clear meaning of representation in Classic Era, character of Don Quixote should be considered. The character is considered as the boundary between the classic and renaissance world by Foucault. Don Quixote is considered as a passenger who announces the end of the age of resemblances. The boundary represented by Don Quixote is in fact an mediate boundary that has not passed through the world of resemblances and has not completely entered the domain of differences (classic era). Foucault says about Don Quixote that his existence is the language and nothing can form his existence other than proses and stories that are published previously. In other words, he is same words. If the novel of Don Quixote is emerged in classic episteme, this is because in novel, pitiless wisdom based on identities and differences ridicules the instrument and nature of renaissance episteme including resemblances and signatures\textsuperscript{19}.

Don Quixote tends to prove that he has is same with the signatures of the book, with which he is created. This is because; he has not passed the world of resemblances of renaissance completely. On one hand, he seeks to prove his likeness with signatures of his book and on the other hand, at the same time that he tends to show the likeness, this decision refers to this issue that Don Quixote is at a world that readable signatures are not like tangible people anymore. All proses are unique and nothing at the world is like them\textsuperscript{20}. In his world, likeness is destroyed and Foucault has stated in this regard that all of these stories can be burnt in their integrity without changing the physic of the world\textsuperscript{21}. Don Quixote tends to return the destroyed attachment between likenesses and signatures. Searching the likeness that used to form knowledge structure of the age in former discourse is considered as madness in time of Don Quixote\textsuperscript{22}. Lingual signatures placed in ages of book have not harmony with the natural environment, but also they are just same story that is represented. It could be mentioned that language in has entered a domain in classic era and has been separated from attachment to objects. Don Quixote is a character that is confused in this separation and is searching nostalgically the likenesses.

\textsuperscript{15}Tanke,2009: 26
\textsuperscript{16}Foucault,1994: 27
\textsuperscript{17}Foucault, 2010: 76
\textsuperscript{18}Refer to Foucault, 2006: 24
\textsuperscript{19}Gat and Lewis, 2007: 67
\textsuperscript{20}Foucault, 2010, 106
\textsuperscript{21}Ibid, 106
\textsuperscript{22}Refer to: Foucault, 2006: 37
In the second part of his story, Don Quixote faces some characters that have read first part of his novel and know him as a hero. Here, an important issue is that the book is referred to its own and has narrated its own. Don Quixote is changed into his book and has no reality other than it. With the analysis, Foucault discriminated system of differences in classic era. The Don Quixote, who was a real existence based on knowledge system of renaissance, is now change into language and is separated from outside reality. An important issue about Don Quixote and his relationship with representation system of classic era is that Don Quixote has not read his book and can't read it, since he is the book itself. According to classic knowledge, the person that the drama is existed form him/her or represents him/herself in it or someone who has integrated all fields of drama can't be found in the representation. Therefore, Don Quixote can't read his story, since he is represented through language. The thing known as Don Quixote is derived from his attachment with language. He is changed into same language separated from objects that represent its reality and brings new era, in which Foucault has called it as representation system (classic era).

In classic era, mad people are individuals confused in game of similarities and differences and according to analysis of Don Quixote, he is considered as a mad person because of lack of recognizing differences, since he thinks about similarities contrary to classic knowledge era and thinks that all signatures are same.

SIGNATURE REPRESENTATION IN CLASSIC ERA

In thinking atmosphere of classic era, signatures could be defined based on 3 types of relationship: 1- certainty of relationship: a signature may have such explicitness and certainty that ensures person like breathing that is a signature for living; 2- type of relationship: a signature may inform about a whole as a part of whole like physical health that is signature for living health; 3- origin of relationship: a signature can be a contract like a word that can be considered as a signature for a specific group. As it is obvious, contrary to renaissance attitude, the relations are not based on resemblance, but also they can be regarded just as signatures that represent something. The 3 types of relationship are replaced instead of resemblance system and intellectual system of classic era.

In renaissance, signatures, whether known or unknown, were existed, since they were on the objects and their presence or absence was not related to exploring them by human. However, by 17th century (classic era), no unknown signature was existed; since human could make them and use them as an alternative for something. Hence, classic era gains implied function. Therefore, signature in classic era is also a signifier and is not same as signified, but represents it.

Foucault has considered the most important feature of signature in classic era the gap between signature and the signified. This indicates that in classic era, no relationship was existed between the signifier and signified. In fact, signature and the signifier are not same. The factor that relates signifier and signified is an issue associated with classic knowledge and according to it, signature can just represent and an important issue is that the issue (signified) can never be observed in signature. This is because; in classic thought, the person for him/her representation was performed had no position in classic order table. In epistemic space if classic era, there was nowhere for human as the object of knowledge and there was also no epistemological information about human.

In classic thought, two conditions are hidden: first, to be considered as a signature, it should do representation and second, representation happens in signature itself. An important issue here is that the signified is clear juts in representation and the signifier is same thing that is represented. According to this issue that in classic thought, the thing for which representation is done is absent and hence, the only thing

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23 Refer to: Foucault, 2010: 19
24 Dreyfus and Rabinow, 2010: 95
25 Refer to: Foucault, 2010: 125
26 Refer to: Dreyfus and Rabinow, 2010: 86
27 Foucault, 1994, 309
that can be represented is representation action. In other words, signified is nothing other than same representation action. As a result, the image would be nothing other than representation action and signified can be recognized as the signified in through the representation action. Hence, in renaissance, the thing represented is never clear. This is because; representation is an action that happens in signifier itself. Therefore, there is no other content other than representation action. It means that representation is referred to representation itself and the representation action is also introduces as an image.

In this field Foucault says: "an idea can be a signature for another idea, not only because representation attachment can be created between them, but also because representation can be always represented in an idea that is under representation or since representation is always perpendicular on its own in its specific nature". It means that representation is apparently an object; although representation refers to its own. Hence, in regard with defining signature in classic era and its relationship with representation, it could be mentioned that signature has the ability of representation. However, the capability is in fact the capability of representing the representation. Therefore, the signified in nothing unless analysis of signature itself. Foucault says about semiotic in classic era: "as system refers to something that is signified, it grants no different nature given to signature. Hence, meaning can be nothing more than generality of signatures that are arranged".

Manner of representation of signature in classic era can be stated as follows: classic man has observed signature and object once alongside and hence, he considers signature as the representation factor of signified contractually. However, signature is not like signified at all. As a result, the thing remained is same representative feature of signature that is free of any kind of content. Accordingly, the remained thing is representation action and not representation of something and the representation action is something that is emerged. The action could be observed clearly in Velázquez's Las Meninas. In this work, representation is illustrated in best manner. In other words, the painting is nothing unless representation action, along with absence of signified.

Absence of signified in Velázquez's Las Meninas

Foucault has considered Velázquez's Las Meninas (figure 3) as the representative of the mindset of classic era and has introduced representation as the clear feature of this work. The Velázquez himself is observable in painting while drawing a big painting, a painting that its back is illustrated in picture and no one can see the canvas. This is same place that is being represented on the canvas. However, it should be noted that not only the image on the canvas, nut also the place focused by painter is not specified and clear.

Therefore, it could be mentioned that a painting, in which painter is representing a scene, is intangible for double. This is because; on one hand, one can't see the face of painting that what is on it and on the other hand, the landscape that painter is stared to it is not clear for the viewer. The view is exactly same blind spot where an essential hiding factor is existed, in which our look can be disappeared. As a result, the only thing cleared for audiences from representation action of painter if a scene, in which the painter is stood up in front of his painting and represents something. This issue that view can't observe representation scene returns to knowledge system of classic era, according to which the thing is being represented can never be appeared. In regard with the absence, it was explained before that how signature used to do just representation action in classic era. As a result, in this painting, only this issue can be cleared that something is being represented. However, in order to find that what the painter is

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28 Foucault, 2010: 135
29 Foucault, 2010: 137
30 Borne, 1999: 1181
31 Foucault, 2010: 33
32 Boyne, 2002: 347
drawing, viewer should see the surface of canvas face to painter. This is impossible based on classic episteme.

A point that should be referred here is that painter is stared on us and the space that audiences are placed. It seems that painter is representing audiences in his painting. Here, mutual interaction of signifier and signified of classic era could be observed: our look and painter's look. When watching the painting, painter is also watching us. The other interaction can be found in this issue that at the same time, painter looks at audiences and leaves them at the moment and replaced them with the thing that has been always there before audiences are present there (the pattern itself)\textsuperscript{33}. The interaction between audiences and pattern is constantly changing.

The absence in this painting (absence of signified) is very important, since in thought of classic era, the person, to whom the representation is done, had no position in knowledge system of renaissance. With the language structure, natural history and analysis of wealth for human was vital. However, no epistemological awareness is in hand about human. Hence, in classic thought, nothing is observed under the title of "human knowledge". This is because; it had no place as an object for knowledge and only after end of thinking system of classic era, human is emerged as the object of epistemology. Hence, Foucault considers human as a new invention: "for sure, it could be mentioned that human could be disappeared as an image on the seashore"\textsuperscript{34}.

In this painting, audiences are observing this issue that when the painter is stared on them and is drawing their picture, he can't see his own image. As Foucault refers in analysis of Don Quixote; although he has read many new stories and narrated them, he has not read his book and can't read it, since he has been represented through his book. Hence, as according to knowledge system of classic era Don Quixote was unable to read his book, audiences in Velazquez's “Las Meninas” are unable to see their own representation.

Another important issue is that in classic thought, representation is illustrated in signature; meaning that in classic thought, the thing that is represented is considered as signature and signature has no content other than representation action. More interestingly, according to this episteme, the signified is nothing other than the thing represented. Therefore, a scene is observable in this painting, in which a representation action is being done. Painter has a brush in his hand and is drawing a painting. The painter is representing something on the canvas. However, all thing observed from this action is just representation action.

This issue can be observed clearly in “Las Meninas” by Velazquez. Accordingly, one can speak just about a model and consider it. According to classic semiotic system, the signified is nothing other than representation done by painter. Hence, representation refers to itself and the remained thing is same representation action as an image.

On the wall, there is a mirror that pictures portrait of Philip IV and his wife, Mariana. It seems that painter is drawing their picture on the canvas. However, the represented picture in mirror can't be considered as an image, since the image is a legend in view of Foucault that confuses audiences and among all representations; the image is the only image that is observable. No one looks at the mirror, even Philip IV and his wife, Mariana don't look at the mirror, but instead they look at people at the room. Therefore, the mirror illustrates an important indifference in classic era. Mirror pictures classic era with inattention to all objects and people in the room. By that era, they believed that if people separate themselves from all subjective presumptions and emotions while looking at objects, they can perceive objects. In aesthetic domain of classic era, an impartial attitude free from any kind of intention to natural aesthetics and artistic

\textsuperscript{33} Foucault, 2010: 34
\textsuperscript{34} Wickes, 2007: 114
works was prevailed. Kant's Critique of Judgment power can be clear example of this attitude. Accordingly, mirror in this work indicates impartial viewpoint in classic era. It could be mentioned that Velazquez's “Las Meninas” is representation of classic era representation, in which Foucault has specified his main characteristics in representation and has analyzed thinking structure of a historical age. The painting and its narration of representation is in such manner that it seems that classic era has represented itself through the painting. However, the main feature of classic era observed in this painting in view of Foucault is the character, for which representation is performed. In classic thought, represented character and the person, who has identified him/herself as image or reflection can never found in the table. Before the end of 18th century, no human was existed.

CONCLUSION
Foucault has considered artistic works as representative of thinking domain of a historical era. Hence, artistic works can show thinking features an episteme. As artistic works have an inseparable attachment to historical-social context and gain their identity from it, it could be mentioned that through analyzing artistic works and assessing actions and interactions of different discourses of an era, not only reason for emergence of specific issue can be identified, but also thought of a historical period can be also cleared through artistic work. Hence, Foucault considers an inseparable attachment between artistic work and epistemology.

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35 Refer to: Wickes, 2007, 110
36 Foucault, 2010: 519
MEDIATING ROLE OF ORGANIZATIONAL SILENCE ON THE EFFECT OF TRUST ON ORGANIZATIONAL COMMITMENT (CASE STUDY OF TEHRAN MUNICIPALITY)

Amani Saeed
M.A : Executive Management– on: Strategic Management, Science and Research Branch of Tehran, Islamic Azad University, Tehran, Iran

Hamdi Karim
Associate Professor of Business Administration, management and Economy Faculty, Science and Research Branch of Tehran, Islamic Azad University, Tehran, Iran

ABSTRACT
The present research has been carried out with the aim of studying the relationship between organizational innovation and competitive advantage. Its population includes all employees of Tehran Municipality with the size of 200 people. The sample size estimated to be 131 people using Cochran formula. For collecting data questionnaire is used. Cronbach alpha indicated the questionnaire reliability 0.87. For analyzing data SEM is used in form of AMOS software. Findings indicate that organizational trust effects on organizational silence and organizational silence effects on organizational commitment but there is no significant relationship between organizational trust and organizational commitment.

Keywords: organizational silence, organizational commitment, organizational trust

INTRODUCTION
Lack of information and trust is one of main obstacles in succeeding programs and organizational objectives which is named as organizational silence (Zarei Matin, 2011). Morrison, and Milliken (2000) considers organizational silence as a social phenomenon in which employees prevent from expressing opinions and concerns about organizational problems. Employees have different motivations for keeping silent among which one can refer to silence according submission and admitting (satisfying silence) as well as self-protecting behavior based on fear (defensive fear) (Rhee, 2015).

For preventing from organizational silence and its optimal management, there is the need for creating trust in organization as one the most important social capital. This has brought about empathy among employees and administrative section managers (Marzughi et al, 2012). Hoy & Tschannen-Moran (2003) believe that trust includes freedom of speech, honesty, reliability, benevolence and adequacy. Organizational trust includes two aspects of trust toward organization and trust toward supervisor (Tan and Tan, 2003) which effect on other organizational components.

On the other hand, majority of theorists and researchers agree that each organization success depends on employees’ commitment, attachment, and faithfulness. In one hand, the aforementioned factors are helpful in solving problems such as Hypothyroidism, absence, replacement, and abandoning organization. On the other hand, a good ground will be created for increasing employees’ efficiency by enhancing employees’ internal motivations in order to attempt more and enhance the quality. Commitment is a psychological state which determines the employees’ relationship with the organization and it refers to their decision for keeping membership in organization or cutting the cooperation (Chen and Francesco, 2003). Researches indicate that when employees believe that they can be involve in organizational issues, they are more willing not be silent, express their critics and solutions and to have the opportunity to influence on different levels of organization (Glew et al, 1995; Locke, and Schweiger , 1979). As a result, people try more than norm (duty) for organization
success (Patchen, 1970; Martin et al, 1995) or in other words, these employees enjoy a higher level of commitment (Rhee, 2015).

Paying attention to human resources and organizational behavior factors such as trust, organizational silence as well as their relationship in municipality can bring about an increase in commitment among employees and as a result leads to higher efficiency for the organization. This results in more satisfaction from municipality services beside an optimal use of limited resources and improving Municipality performance as a service institution which is governed by government officials. Thus, municipality requires more commitment among employees to attract more satisfaction among customers and to increase efficiency and improve performance. Therefore, the present research main question would be:

“What is the role of organizational silence on the effects of trust on organizational commitment in Tehran Municipality?”

THEORETICAL FRAMEWORK
SILENCE
Morrison. and Milliken (2000) believe that silence is a powerful force in organizations which has not received enough attention and research. The reason behind not paying attention to silence is explained. Silence is the lack of behavior. When there is no behavior, discovering its related problems is difficult. In fact nobody become worried about a behavior which do not exist.

According to Pinder and Harlos (2001) silence is a conscious, active and systematic behavior. When people do what they are being expected without expressing their thoughts, this can be a sign of complaining to organizational methods (Briensfield, 2013). Pinder and Harlos (2001) introduced silence and satisfying silence as two forms of silence and they compared these two forms with 8 aspects: voluntary, awareness, acceptance, stress level, being aware of alternative options, willing to express voice, willing to express dominant feelings. (Pinder and Harlos, 2001) suggested that employees silence is a form of silence which indicates on purpose deletion. Therefore, they believe that silent employees conceal information according to some motivations.

Satisfying silence is an option for forgetting to follow everything (Pinder and Harlos, 2001). Those people with satisfying silence contrary to silent people are not willing to change their environment. Similarly, Van D涅 et al (2003) confirmed people’ motivation of silence by a discussion of three types of silence: Resignation, fear and cooperation. Van D涅 et al (2003) has suggested defensive silence. Therefore, people follow satisfying silence regarding issues about work based on low efficiency in change. When a superior do not respond the presented information provided by his employees and prevents from employees’ participation in discussions related to organizational issues, the employees assume speaking useless and accordingly they incline toward satisfying silence. Defensive silence is the prevention from expressing opinions and presenting information according to fear and self-protection (Van D涅 et al, 2003). Employees who are aware of punishment are fired from their works and they know that they would be labelled as a troublesome person and this way they protect themselves against negative consequences. Community-friendly (cooperative) silence is related to disclosing information related to work, opinions, and ideas with the aim of others’ or organization benefits (Van D涅 et al, 2003). Satisfying and defensive silence have negative effects on organization but community friendly silence is not a harmful phenomenon for organization (Wang and Hsieh, 2013).

TRUST
Interpersonal trust depends on individuals’ characteristics and it is the result of repeated contacts among people while institution trust is evolved by structure relationship and developed rules in organization (Fox, 1974). Similarly, Tan and Tan (2000) indicated that although there is a positive relationship between trust to supervisor and trust to organization but they both have to be paid attention as two separate construct with different components and consequences.
According to Tan and Tan (2000) trust to supervisor is deeply related to concepts such as capability, benevolence, supervisors integration and trust to organization has a positive relationship with world variables such as fair and organizational commitment. Employees may enjoy a higher level of trust to their supervisor while they enjoy a low level of trust to the organization since there can be a good relationship between employees and supervisors that at last brings about trust to supervisors (Tan and Tan, 2000). Trust to organization and trust to supervisor are considered two separate construct.

TRUST TO ORGANIZATION AND SILENCE
Organizational trust refers to people positive expectations regarding organization employees behaviors based on relationship, organizational role and mutual attachments (Shockley-Zalabak et al, 2000).

Trust to leaders and senior managers are positively related to employees’ self-efficiency (Yang, and Mossholder , 2010). In other words, employees with higher trust to organization enjoy a higher self-efficiency in creating difference in the organization which enables them to share their concerns about establishing a different organization with others while those people with a lower level of trust enjoy a lower level of self-efficiency in presenting suggestions and solutions and they remain in a satisfying silence (Rhee, 2015). Those people who trust to their own organization are more likely self-confident about their behavior consequences and senior managers’ reaction ( Detert, and Burris , 2007).

TRUST TO SUPERVISOR AND SILENCE
Mayer and, Davis (1995) model has discussed trustful and trustee person characteristics. Capability is a combination of skills, liabilities and features which create the opportunity for influencing in a certain range. Benevolence is adapted from individual’s belief from helping to people. Honesty implies trustful quality and introduce him/ her as believing in a set of principles which are accepted for the one who trusts (Mayer, R. C., Davis , 1995). People evaluate supervisors’ benevolence and integration before sharing any information since they have to make sure that the supervisors would not punish them for presenting those information. In case the supervisor is known for having a negative attitude toward sharing information, people will find a level lower than trust to their supervisor (Rhee, 2015).

Furthermore, when supervisors do not pay attention to the shared information by employees, employees will have a trust level lower than the trust to their supervisors and as a result, they feel that speaking do not incur any kind of changes. According such an interpretation, employees abandon their concerns regarding their work and this leads to a satisfying silence (Rhee, 2015).

SILENCE AND ORGANIZATIONAL COMMITMENT
As was mentioned before, those with satisfying silence do not express their concerns due to this belief that they can not make any changes and that is why they do not engage themselves in organizational issue (Van Dyne et al , 2003). When employees believe that they are engaged in organization issues (French et al, 1960) they are willing to express their voice even indirectly and they are also willing to have the opportunity to affect different levels of organization (Glew et al, 1995; Locke, and Schweiger , 1979). As a result, these people attempt more than their duty for organization success (Patchen, 1970; Martin et al, 1995). In contrast, those who have abandoned organizational issues are less likely to be committed to their organization (Aluttoand Belasco , 1972; Alutto, and Acito, 1974). Those with defensive silence conceal their concerns based on fear and threat. When individuals feel that their situation is endanger they are less likely committed (Wang, 2005). Tsai, and Young (2010) explores a negative relationship between risk and commitment. Also Deniz et al (2013) confirmed the negative relationship between defensive silence and organizational commitment. Therefore, we believe that those with defensive silence are less likely to be committed to their organization (Rhee , 2015).

RESEARCH OBJECTIVES
- Determining the effects of organizational trust on organizational silence
• Determining the effects of organizational silence on organizational commitment
• Determining the effects of organizational trust on organizational commitment

1. Review if the related literature

Table 1. The review of related literature in and out of Iran

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>Researcher</th>
<th>Subject</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2015</td>
<td>Marzughi et al</td>
<td>The role of organizational silence in explaining the relationship between students trust to managers and their educational satisfaction</td>
<td>An increase in students trust level can influence in reducing their silence. However, reducing educational silence do not leads in increasing educational satisfaction and educational satisfaction can directly be affected by students’ trust to managers. Therefore, students’ trust to managers can directly increase education satisfaction.</td>
</tr>
<tr>
<td>2</td>
<td>2014</td>
<td>Afshari et al</td>
<td>The relationship between employees’ organizational commitment and organizational silence</td>
<td>The more the silence phenomenon is in the organization, the less the employees’ commitment would be</td>
</tr>
<tr>
<td>3</td>
<td>2012</td>
<td>Salimi et al</td>
<td>The effects of trust components of organizational trust in creating organizational commitment among employees (Ardebil city hospitals: a case study)</td>
<td>Local marketing has positive and significant effect on creating organizational commitment. Also according to Pearson correlation, all local marketing components have positive and significant relationship with organization commitment. Perspective, improvement and development do not enjoy an optimal status among employees. Supervisor support has the biggest portion in explaining organizational commitment.</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>Amir Kafi and Hashemi Nasab</td>
<td>The effects of organizational justice, perceived organizational support and organizational trust on organizational commitment</td>
<td>Organizational justice effects indirectly on commitment through two variables of organizational support and organizational trust. Perceived organizational support also have direct and indirect effects on commitment. Its indirect effects is done through organizational trust variable and finally the direct effects of organizational trust on commitment is more than the effects of other variables.</td>
</tr>
<tr>
<td>5</td>
<td>2009</td>
<td>Khanifer et al</td>
<td>The relationship between employees’ trust and organizational commitment ( in Agricultural Jihad organization and Qom Education office)</td>
<td>In both organizations there is no significant relationship between employees’ commitment and trust. Furthermore, there is a significant relationship between attention and emotional commitment, attention and Normative commitment.</td>
</tr>
</tbody>
</table>
The relationship between trust, silence and organizational commitment

Trust to organization has negative effects on satisfying silence but it is no significant effects on defensive silence. Trust to supervisor has no significant effects on satisfying silence while it has negative effects in defensive silence. Also satisfying silence and defensive silence have negative effects on organizational commitment.

The relationship between employees silence and organizational commitment in a private healthcare company

There is a negative and significant relationship between emotional commitment and one aspect of organizational silence (defensive silence)

Anger, fear and commitment enhancement

The research indicates that all negative feelings reduce commitment.

METHODOLOGY
The present research is a practical, descriptive survey. The population comprises of 200 employees of Tehran municipality. The sample size is estimated 131 using Cochran formula. The sample is selected randomly. For collecting data questionnaire is used which includes 5 questions for measuring trust to organization (Cummings and Bromiley, 1996), 7 questions for measuring trust to supervisor (Robinson, 1996), 10 questions for measuring organizational silence (Van Dyne et al, 2003) and 5 questions for measuring organizational commitment (Tsui et al, 1997). For measuring the items, 5 items Likert scale (completely agree – completely disagree) was used. Questionnaire Cronbach alpha is equal to 0.87 which indicates its high reliability. The questionnaire validity is also confirmed by professors and experts.

HYPOTHESIS AND THE RESEARCH MODEL
RESEARCH HYPOTHESIS
• Organizational trust effects on organizational silence
• Organizational silence effects on organizational commitment
• Organizational trust effects organizational commitment
RESEARCH MODEL

Figure 1. the research conceptual model

DATA ANALYSIS

DESCRIPTIVE STATISTICS

Table 2. results from demographic statistics

<table>
<thead>
<tr>
<th>Demographic variables</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job experience</td>
<td></td>
</tr>
<tr>
<td>5 years and less</td>
<td>19%</td>
</tr>
<tr>
<td>5-10 years</td>
<td>26.71%</td>
</tr>
<tr>
<td>10-15 years</td>
<td>38.16%</td>
</tr>
<tr>
<td>15 years and more</td>
<td>17.55%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Diploma and less</td>
<td>0%</td>
</tr>
<tr>
<td>Assistant degree and bachelor</td>
<td>67%</td>
</tr>
<tr>
<td>Master degree and more</td>
<td>33%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>20-30 years</td>
<td>25%</td>
</tr>
<tr>
<td>31- 40 years</td>
<td>40%</td>
</tr>
<tr>
<td>41 and more</td>
<td>35%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>41.5%</td>
</tr>
<tr>
<td>Male</td>
<td>58.5%</td>
</tr>
</tbody>
</table>

Table 3. Descriptive statistics of organizational commitment

<table>
<thead>
<tr>
<th>Variable</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Average</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational</td>
<td>1.4</td>
<td>4.4</td>
<td>2.97</td>
<td>0.58</td>
</tr>
<tr>
<td>commitment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4. Descriptive statistics of organizational silence

<table>
<thead>
<tr>
<th>Variable</th>
<th>The least value</th>
<th>The most value</th>
<th>Average</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voluntary silence</td>
<td>1.6</td>
<td>4.2</td>
<td>2.9</td>
<td>0.58</td>
</tr>
<tr>
<td>Defensive silence</td>
<td>1.6</td>
<td>1.8</td>
<td>3.1</td>
<td>0.55</td>
</tr>
<tr>
<td>Organizational silence</td>
<td>1.6</td>
<td>4.4</td>
<td>3.07</td>
<td>0.52</td>
</tr>
</tbody>
</table>

Table 5. Descriptive statistics of organizational trust

<table>
<thead>
<tr>
<th>Variable</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Average</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust to organization</td>
<td>1.2</td>
<td>4.8</td>
<td>3.07</td>
<td>0.53</td>
</tr>
</tbody>
</table>
INFERENTIAL STATISTICS

RELIABILITY STATUS
For measuring questionnaire reliability Cronbach alpha is used in form of SPSS. According to table 6 variables reliability and the whole questionnaire reliability is assumed to be at an optimal level.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach alpha</th>
<th>Reliability status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational trust</td>
<td>0.82</td>
<td>High reliability</td>
</tr>
<tr>
<td>Trust to supervisor</td>
<td>0.84</td>
<td>High reliability</td>
</tr>
<tr>
<td>Voluntary silence</td>
<td>0.83</td>
<td>High reliability</td>
</tr>
<tr>
<td>Defensive silence</td>
<td>0.83</td>
<td>High reliability</td>
</tr>
<tr>
<td>Organizational commitment</td>
<td>0.89</td>
<td>High reliability</td>
</tr>
<tr>
<td>The whole questionnaire</td>
<td>0.87</td>
<td>High reliability</td>
</tr>
</tbody>
</table>

CONFIRMATORY FACTOR ANALYSIS
Confirmatory factor analysis is used for analyzing the questionnaire internal structure and exploring each construct or variable components. Images 1 and 2 indicates first and the last stage of confirmatory factor analysis of the model.
Image 1. The research model in standard estimation state
EVALUATING THE MODEL FITTING

For evaluating the model fitting, three categories of fitting indices are used: absolute fitting index, comparative fitting index, reduced fitting index (Pahlavan Sharif and Mahdavian, 2015). Table 7 indicates fitting indices.

**Table 7. fitting indices**

<table>
<thead>
<tr>
<th>Reduced fitting indices</th>
<th>Comparative fitting indices</th>
<th>Absolute fitting indices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allowed value</td>
<td>Allowed value</td>
<td>Allowed value</td>
</tr>
<tr>
<td>&lt;0.5</td>
<td>&lt;0.9</td>
<td>&lt;0.5</td>
</tr>
<tr>
<td>p-value&lt;.05</td>
<td></td>
<td>&lt;5</td>
</tr>
<tr>
<td>&lt;0.1</td>
<td></td>
<td>&lt;0.1</td>
</tr>
<tr>
<td>PCFI</td>
<td>PNFI</td>
<td>NFI</td>
</tr>
<tr>
<td>.654</td>
<td>.587</td>
<td>.959</td>
</tr>
<tr>
<td>CFI</td>
<td>K2</td>
<td>CMIN/DF</td>
</tr>
<tr>
<td>.934</td>
<td>458.125</td>
<td>2.224</td>
</tr>
<tr>
<td>RMSEA</td>
<td></td>
<td>.097</td>
</tr>
</tbody>
</table>
As the fitting indices are shown to be in an allowed range, the model enjoys a good fitting.

**STRUCTURAL EQUATION MODEL ANALYSIS**
After testing the measuring model and measuring its validity using confirmatory factor analysis, we can investigate the relationship between the variables based on structural model. Image 3 indicates the research SEM model.

![Image 3. SEM model based on CFA model results with optimal fitting](image)

According to the table of regression weights in case crisis coefficient (C.R) is more than 1.96, then the relationship between the two variables are significant with the confidence of 95%. Also in case p-value is less than 0.05, the relationship between the two variables is significant with the confidence of 95%.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Non-standard coefficient</th>
<th>S.E</th>
<th>C.R</th>
<th>P-value</th>
<th>Accept/ reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust-organizational silence</td>
<td>0.745</td>
<td>0.122</td>
<td>6.125</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>Organizational silence-organizational commitment</td>
<td>0.592</td>
<td>0.159</td>
<td>3.710</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>Organizational trust-organizational commitment</td>
<td>0.2</td>
<td>0.149</td>
<td>1.34</td>
<td>0.178</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

**MULTIPLE CORRELATION SQUARE COEFFICIENT ANALYSIS**
This coefficient studies the capability of predicting dependent variable by variable or independent variables. It explains the percentage of dependent variable changes by independent variables. As multiple correlation square coefficient for organizational commitment is equal to 0.474 and 0.531 for
organizational silence, therefore, 47.4% of knowledge management variable variance and 53.1% of learning attitude variable variance is explained by the model.

CONCLUSION AND SUGGESTIONS

Results indicate that the most frequency is related to male group with the frequency of 58.5% and male group with the frequency of 41.5% is in the second order. The most frequency is related to the age group of 31-40 (40%). After than there is the age group of 41 years and more (35%) and the least frequency is related to 20-30 years (25%). The most frequency (67%) is related to the group of assistant degree and bachelor and after that there is the group of master degree and PhD (33%). Also it became clear that none of the employees have diploma or less degrees. The most frequency is related to the ones with the job experience of 10-15 years (38.16%) and after that is the group of those with job experience of 5-10years (26.71%). Those with job experience of 5 years and less are in the third place (19%) and the respondents with the job experience of 15 years and more (17.55%) is in the last place.

According to descriptive statistics the average of variables for organizational commitment is equal to 2.97%, organizational silence is equal to 3.07% and organizational trust is equal to 3.23%. As the mentioned values are close to the theoretical average of the measuring scale, these values are evaluated as average.

In regard to accepting the first hypothesis it is suggested that managers of Tehran municipality should increase sincere, courteous and friendly behavior with employees to increase trust to organization. They also have to increase skills and knowledge among employees to increase employees' success. Therefore, managers of human resources can help employees by training classes. Also by selecting appropriate people for the positions of managers and supervisors the component of trust to supervisor can be encouraged. In case managers and supervisors are well aware of schedules and duties, they are more likely behave persistently. Also training classes and communicative skills for managers and increasing the use of transformational leadership style can help to increase trust among employees. Re the acceptance of second hypothesis managers and officials can help in increasing organizational commitment through decreasing organizational silence. In this regard an attendance system for employees make them sure that expressing their opinions and critics do not endanger them. Also a reward and encouragement system as well as opinion evaluation system can encourage employees to present creative solutions. In case all people become aware of the operationalization of other employees suggestions and solutions, employees will become aware of the importance of their words for the managers and therefore, organizational silence decreased. Re, the third hypothesis, as the effects of trust on commitment is rejected, it is suggested that managers take action for improving that in the organization to use the advantages of organizational trust. They also have to take action for increasing organizational commitment with other organizational parameters such as organizational silence or increasing job satisfaction.

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EXAMINING THE EFFECT OF SHAPE, SIZE AND DISTANCE OF POPS IN THE NON-LINEAR BEHAVIOR OF STEEL SHEAR WALLS

Amin Adib Rahim Abadi
Department Of Civil Engineering, Qeshm Branch, Islamic Azad University, Qeshm, Iran

Yousef Zandi
Member Of Academic Staff, Department Of Civil Engineering, Tabriz Branch, Islamic Azad University
Tabriz, Iran

ABSTRACT

The shape and place of the holes of shear walls are effective on tensions and the elastic and non-elastic transformation and also the formability, bending resistance and capacity of absorbing energy at times of earthquakes. Thus, it is necessary to pay attention to the non-linear behavior of steel shear walls with pops and consider some strategies for reinforcing the sides of the pops. The goal of this project is studying and deeper understanding of the strength and weakness points of pops, the effect of shape and place of pops on the functioning and behavior of shear walls in the non-linear area of steel shear walls. For this purpose, we present the results of a numeric study on steel shear walls with pops. The analyses are done by the limited components Abaqus program and are calibrated by experimental results. An area of subjects that is studied in the steel shear walls with pops includes final load, and load-displacement curves. The numeric results for steel shear walls with pops would also be compared. Finally, the calculated numeric results will be compared with the experimental results. Final load and load-displacement curves gained by the numeric analysis show a good adaptation with the results gained from related experiments. Results of numeric analysis in most cases indicate that this method is a conservative one. Thus, we could use this method in designing applications.

Keywords: steel shear walls, non-linear behavior, pops, Abaqus software

INTRODUCTION

Steel shear walls have been used since the 70s in various buildings particularly high buildings as a system with appropriate functioning, against the lateral forces. Steel shear wall consists of a refilling steel layer that is surrounded by a system of bars and pillars. This system is like a vertical steel foil bar that is placed in a cantilever way in which the pillars play the role of the wings of foil bar, while bars act as hardeners. High elastic hardness, great formability and hysterias sustainable behavior in coming and going loading are the features of this system. Buildings besides usual loads can undergo limited loads as well. Studying the behavior of buildings against loads like earthquakes, loads caused by clashing of objects and loads resulted from nearby or inside explosions has always been of great significance. Regarding the fact that our country is located in a seismic location and there is the possibility that in the designing of many previous constructs, the earthquake force has not been taken into account, thus, many of these constructs require reinforcement and invigoration against the earthquake force. Reinforcement of constructs for confronting the forces and fluctuations due to earthquake with new and various ways is among the relatively new domains in scientific areas. Steel shear walls are considered an effective construct for providing resistance for high and middle buildings against the lateral forces. The existence of pops in the elements of reinforced concrete changes the simplified suppositions of designing and should be accurately taken into account in the analyses. On the other hand, the necessity of pops in these walls is often inevitable in the non-linear behavior due to architectural or constructive reasons. (Hitaka, 2003). The shape and place of the holes of shear walls are effective on tensions and the elastic and non-elastic transformation and also the formability, bending resistance and capacity of absorbing energy at times of
earthquakes. Thus, it is necessary to pay attention to the non-linear behavior of steel shear walls with pops and consider some strategies for reinforcing the sides of the pops. Also regarding the lack of enough experimental studies on the behavior of steel shear walls with pops under the effect of cyclic loading due to economic and time reasons and lack of an appropriate analysis method for determining the capacity of steel shear walls with pops, performing numeric studies in this regard is of significant importance.

A BRIEF REVIEW OF THE LITERATURE
Sabouri-ghomi gholhaki (2008) studied the non-linear behavior of steel shear walls with pops with incoming and outgoing loading and semi-static way on 16 thin non-reinforced panels in small scale for examining the load-displacement features. These samples include steel foils that are attached to a four-hinge frame by a screw. Some panels have holes. Incoming and outgoing loading was done in the direction of diameter for making a pure cut. All panels showed enough formability and they concluded that resistance and hardness reduce in a linear way against (1-D/d). d is the height of panel and D is the diameter of pop. In these studies, also an analytic model of the hysteresis behavior of cutting panels was gained. (sabouri,2008). Also Roberts (1991-1992) examined the behavior of shear panels and the effect of round pops on the resistance and hardness and results showed that the resistance and hardness of the foil and pop reduce with the ratio of (D/d, d as the height of panel and D as the diameter of pop) compared with the hardness and resistance of the foil without pop, and the results of these tests were used for determining the behavioral load-displacement curve of the foil with pop. (Roberts,1992). Tasnimi (2000) attended to the experimental study of reinforced concrete shear walls under the effect of cyclic loading. In this experimental study, 4 different samples of reinforced concrete shear walls with 500*1500*50 dimensions were exposed to the effect of 4 different cyclic loadings. Finally, the diagrams of lateral force-displacement were drawn for the 4 samples. (tasnimi,2000). Brunio (2004) for the purpose of reducing the general resistance of the panel, examined the shear panel with a considerable number of holes compared with the sample without pop. The goal of this study was mostly examining the effect of extensive pops on the reduction of hardness and elastic resistance of the panel. They concluded that by making round extensive pops in the foil with higher thickness, one could reach the desired hardness and resistance in the design. (brunio,2004).

METHODS
6 steel shear walls with pops and a cut surface, with the same length and extent of hardness by experimental studies done, were examined by researchers up to the point of break. From the 6 mentioned samples under the cyclic loading, 3 were related to the experimental test done by Sabouri et al and the other 3 belonged to the experimental test of Alavi et al. the study done by Sabouri et al has a pop in a rectangular way and each sample has 2 pops with same dimensions but with different distances. Pops have dimensions of 488*258 and have hardeners. The features of all walls and loadings are shown in the following figures. The study done by Alavi et al has shear walls with one pop in a round shape, pops have a diameter of 400mm in the middle of the wall, and the steel shear wall has diametric hardeners. The proper element dimensions for meshing of the original and reinforced models was selected as 100*100. In this study, for modeling the steel shear wall the two-line full elasto-plastic model with kinematic hardener was used.

Table 1. The features of the used steels

<table>
<thead>
<tr>
<th>Thickness of steel foil</th>
<th>Surrender resistance (Mpa)</th>
<th>Final resistance (Mpa)</th>
<th>Elasticity module (Mpa)</th>
<th>Percentage of final strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 mm</td>
<td>189.5</td>
<td>299.9</td>
<td>206e3</td>
<td>46.2</td>
</tr>
<tr>
<td>15 mm</td>
<td>348.2</td>
<td>521.4</td>
<td>208e3</td>
<td>26.9</td>
</tr>
</tbody>
</table>

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EXPLANATION OF THE MODEL

The results of numeric analysis of the final load of the steel shear wall are shown in table 2. Also the results of numeric analysis and experimental study of the final load of steel shear walls is shown in table 3. The comparison of results shows that the final load gained from numeric analysis shows a very good adaptation with the corresponding loads gained from the experiment.

Table 2. Final load of the steel shear wall gained by numeric analysis and experimental study

<table>
<thead>
<tr>
<th>Steel shear wall</th>
<th>Numeric analysis</th>
<th>Experimental study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pu</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Push, pull</td>
<td>Push, pull</td>
</tr>
<tr>
<td>SSW201</td>
<td>604/3, 605</td>
<td>580, 585/7</td>
</tr>
<tr>
<td>SSW202</td>
<td>600, 601</td>
<td>579, 583/8</td>
</tr>
<tr>
<td>SSW203</td>
<td>609/1, 610</td>
<td>582, 587/3</td>
</tr>
<tr>
<td>average</td>
<td>604/46, 605/3</td>
<td>580/3, 585/6</td>
</tr>
</tbody>
</table>

Table 3. Comparison of the final load and final displacement gained by the numeric analysis and experimental study

<table>
<thead>
<tr>
<th>Steel shear wall</th>
<th>Pu</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P_uN / P_uE push, pull</td>
</tr>
<tr>
<td>SSW201</td>
<td>1/04, 1/032</td>
</tr>
<tr>
<td>SSW202</td>
<td>1/036, 1/029</td>
</tr>
<tr>
<td>SSW203</td>
<td>1/046, 1/038</td>
</tr>
<tr>
<td>average</td>
<td>1/04, 1/033</td>
</tr>
</tbody>
</table>

Table 4. Final load of the steel shear wall with rectangular pop gained by numeric analysis
As seen in the above table, with increase of the dimensions of the pop, the maximum lateral force of the wall will also increase.

**Table 5.** final load of the steel shear wall with rectangular pop gained by numeric analysis

<table>
<thead>
<tr>
<th>Sample</th>
<th>Type of pop</th>
<th>Dimensions of pop</th>
<th>Distance of pop</th>
<th>Fu Push</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPSW2</td>
<td>rectangular</td>
<td>200x200</td>
<td>100</td>
<td>728/104</td>
</tr>
<tr>
<td>SQUARE200X200-2-DIS100</td>
<td>rectangular</td>
<td>200x200</td>
<td>200</td>
<td>701/246</td>
</tr>
<tr>
<td>SQUARE300X300-2-DIS200</td>
<td>rectangular</td>
<td>300x300</td>
<td>200</td>
<td>675/12</td>
</tr>
<tr>
<td>SQUARE400X400-2-DIS200</td>
<td>rectangular</td>
<td>400x400</td>
<td>200</td>
<td>640/838</td>
</tr>
<tr>
<td>SQUARE500X500-2-DIS200</td>
<td>rectangular</td>
<td>500x500</td>
<td>200</td>
<td>603/367</td>
</tr>
</tbody>
</table>

As seen in the above table, with the increase of the number and dimensions of the pop, the maximum lateral force of the wall will also increase.

**CONCLUSION**

The limited element analysis of steel shear walls with pops and hardener by Abaqus software was presented and the round and rectangular pop models were examined. The dimensions, selected backrests and the features of the shear wall models were the same with the features of the related shear walls of the two experimental studies. As it is seen, by increase of the dimensions of the rectangular pop in a same displacement, the maximum lateral force of the wall reduces. By increase of the number of pops and the distance of pops from each other in the same displacement, the maximum lateral force of the wall reduces. By increase of the number of round and triangle pops in a same displacement, the maximum lateral force of the wall reduces. By comparison of the results of numeric analysis with the experimental results, we can indicate the following important results:

- the final load and displacement gained from numeric analysis for the steel shear walls with rectangular pops show a very good adaptation with the experimental results.

- the final load and displacement gained from the numeric analysis for steel shear walls with round pops show a very good adaptation with experimental results.

- the comparison of load-displacement curves gained from numeric analysis for all shear walls shows a very good adaptation with experimental results.
The numeric results show that the increase of the resistance of bars and pillars considerably increase the resistance of the shear wall.

The final lateral load in steel shear walls with two pops in different distances were almost the same.

The results gained from numeric analysis in most cases indicate that this method is conservative. Thus, it can be used with assurance in designing applications.

REFERENCES
EVALUATION OF THE SEISMIC BEHAVIOR OF THIN REINFORCED CONCRETE SHEAR WALL INVIGORATED WITH FRP YARN UNDER LATERAL FORCE

Majid Reza Heydari Zadeh
Department Of Civil Engineering, Qeshm Branch, Islamic Azad University, Qeshm, Iran

Yousef Zandi
Member Of Academic Staff, Department Of Civil Engineering, Tabriz Branch, Islamic Azad University, Tabriz, Iran

ABSTRACT
In this article we studied the non-linear behavior of reinforced and non-reinforced concrete shear wall considering the real stress-strain curves of the concrete, steel and FRP in a three-dimensional way by use of limited elements method. For using the limited components method, by use of ABAQUS software, the reinforced and non-reinforced concrete shear walls were modeled in a three dimensional way and were exposed under lateral loads, and the fraction pattern and destruction mechanisms in the original wall were reinforced by the reinforcement method such as use of FRP materials and at this stage the response of the reinforced wall was compared with the functioning of the original one, and the extent of the effect of using the reinforcement method against the lateral loads was determined. At last, we can conclude that the reinforced concrete shear wall with FRP materials has a better functioning than other reinforcement methods. In addition, use of CFRP screens has less final displacements compared with AFRP and GFRP screens.

Keywords: reinforced concrete shear wall, lateral loads, fraction pattern, limited element, FRP reinforcement

INTRODUCTION
Many of the existing constructs are vulnerable against the effects of various loads and thus their resistance against these loads should be elevated. The destruction caused by the effects of earthquake force to the reinforced concrete construct is a progressive one. Considering the mentioned conditions, safety of the constructive components against the effects of lateral loads has a significant importance. Especially regarding the constructs that are situated in specific positions. For increasing the resistance against lateral loads there are various conventional ways among the most important of them we can mention the use of local reinforcement like steel and concrete veneers for the constructive components and also adding new constructs like a compound steel shear wall. The defects of these ways are that firstly, they impose great gravity loads to the construct and finally the foundation, and secondly, they require much time for installment, thus, they are not economically advisable. An effective and also economic way for this purpose is use of FRP screens for reinforcement. FRP composites have been used for 50 years in construct engineering in areas of construction, reinforcement, invigoration, restoration and optimization of the existing constructs. During recent decades, there were great advances in use of FRP materials, which are an advanced type of composites. FRP materials are composite materials including yarn with high resistance that are situated in a polymeric ground. The yarn in a FRP composite is the main porter member and have high resistance as long as they are in strain. FRP composites today are mentioned as a good replacement for steel due to their high resistance, durability against fraction and the ease of their portage and installment. Many composites have very high resistance against fatigue. Unlike steel, FRP composites don’t undergo gradual softness or decrease in hardness before any fraction against the coming and going loads. As a very important advantage and unlike steel, FRP composites have a high resistance
against corrosion. These materials due to various thermal extension ratio in two cases of same direction with yarn and vertical to the yarn, act orthotropic under the thermal loading as well, and thus they are not ruined by the thermal strains. However, in materials like steel, due to their isotropic quality, due to thermal stress much severe destruction could occur. These materials can easily adapt with the environment and operate properly. In addition, use of these materials by increasing the resistance of the construct can result in considerable elevation of the construct’s ability in confronting the lateral forces. In this research we examined the behavior of the reinforced and non-reinforced concrete shear wall regarding the real stress-strain curves of concrete, steel and FRP by use of the limited element method.

LITERATURE STUDY
DEFINITION OF FRP
Composite yarn is material that has high resistance against strains. In industry these yarn are not usually used solely, but in combination with resin and matrices. FRP, which stands for Fiber Reinforced Polymer is a type of composite composed of two fiber parts, or supportive yarn that are surrounded by a resin matrix made from polymer.

REINFORCED CONCRETE SHEAR WALL INVIGORATED WITH FRP MATERIALS
FRP materials are composites including yarn with high resistance in a polymeric ground. Yarn in FRP composite is the main porter member and have high hardness and resistance as long as in strain.

USE OF FRP MATERIALS IN REINFORCEMENT OF CONCRETE SHEAR WALL
Studies have shown that use of composite materials is effective in obviating the weakness of walls. The compounding process is done by sticking FRP screens to the border elements. For understanding the effects of FRP screens on the reinforced concrete shear wall, CFRP screens were imposed in various ways to the reinforced concrete walls and separately the behavior of load and displacement were studied.

METHODS
In this research, we studied the behavior of reinforced and non-reinforced concrete shear walls considering the real stress-strain curves of eth concrete, steel and FRP screens by use of limited element method. For using this method, by use of ABAQUS software the reinforced and non-reinforced concrete shear walls were modeled in a three-dimensional way and until reaching their final capacity, were exposed to lateral loads. The modeling of the samples was done by using a series of specific elements that their behavior is similar or close to the behavior of concrete, steel and FRP. In modeling with ABAQUS, the FRP element was a S4R type and the concrete element was C3D8R. for this purpose, a number of reinforced concrete shear walls that their experimental results are existing in the technical literature, were selected and after numeric analysis, the getting up curves, destruction pattern and fraction mechanisms were compared with experimental results.

REINFORCED CONCRETE SHEAR WALL
The geometric features of this wall include a height of 3.6 meters, width of 1.2 meters and thickness of 0.1 meters. The features of the concrete materials used in the shear wall are:

<table>
<thead>
<tr>
<th>Concrete’s disposition model</th>
<th>Concrete’s strain model</th>
<th>Concrete’s elasticity model</th>
<th>Poisson ratio</th>
<th>Specific weight of concrete</th>
<th>28-day resistance of concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>$f_r$(MPa)</td>
<td>$f_t$(MPa)</td>
<td>$E_c$(GPa)</td>
<td>$\nu$</td>
<td>$\gamma_c$(kg/m³)</td>
<td>$f_c$(MPa)</td>
</tr>
</tbody>
</table>

Table 1. Features of the concrete materials in the wall
LONGITUDINAL AND LATITUDINAL FITTINGS IN THE SHEAR WALL
The longitudinal fitting used in the concrete sample has a 10 mm diameter and the latitudinal fitting has a 6 mm diameter. The features of the steel materials used in this wall are as following:

Table 2. Features of the steel materials of the fitting

<table>
<thead>
<tr>
<th>Stress of steel flow</th>
<th>Strain of steel flow</th>
<th>Poisson ratio</th>
<th>Elasticity model</th>
<th>Specific weight of steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\sigma_t$ (MPa)</td>
<td>$\varepsilon_t$</td>
<td>$\nu$</td>
<td>E (GPa)</td>
<td>$\gamma$ (kg/m³)</td>
</tr>
<tr>
<td>420</td>
<td>108.0</td>
<td>3.0</td>
<td>210</td>
<td>7850</td>
</tr>
</tbody>
</table>

EXAMINATION OF THE BORDER CONDITIONS OF THE EXPERIMENTAL TEST
The type of analysis used for solving this issue is a cyclic analysis that is entered to the upper part of the wall in an incoming and outgoing way. The backrest conditions of the shear wall is in a way that the lower part of the wall that is the foundation is supposed as completely tangly, the entered loads to the wall unlike the simplicity in the construction and designing of these concrete walls, the real response of the members is somehow complex. The general behavior of walls is a combination of shear bending and axial responses. The sections of the wall are exposed to pressure axial forces caused by gravity loads of the bottom and their own weight. The operating axial pressure on the wall is calculated up to 10% by the multiplication of the pressure resistance of the concrete on the shear wall surface. Loads that are entered to the wall are a lateral type in form of movement by a hydraulic lever in an incoming and outgoing horizontal load, the extent of which is 556 kilo-newton and a pressure load that is entered vertically to the wall with an extent of 379.2 kilo/newton. The meshing of the concrete wall has dimensions of 10*10 cm and the whole wall has 816 elements that are C3D8R type. We may interpret the C3D8R element as a forthcoming one. The first letter of it is C standing for Continuum, 3D means three-dimensional element, 8 is the number of element knots and R means reduced integral, and in this state the number of points for calculating integrals has reduced. The meshing of the used fittings has dimensions of 20 cm and all fittings inside the wall are 1174 elements that are T3D2 type. T stands for Truss, 3D means three-dimensional element and 2 is the number of the elements knots.

FINDINGS OF THE STUDY
In this part, we first examine a number of FRP samples with various patterns and then we draw the loading and displacement diagrams in order to compare them with one another.
Problem no.1: reinforcement of the concrete shear wall by use of FRP materials in a local way

The shear wall used in this study was added to the mentioned reinforced concrete shear wall with FRP materials as the reinforcement method. The geometric and dimensional features of FRP materials are in a way that they can cover the destructions caused by strains and pressure to the wall in the upper and lower sections completely. In addition, the thickness of this FRP layer is 9mm. The meshing of FRP materials has a 10*10 cm dimension and the whole FRP has 624 elements that are S4R. S stands for normal layer element for analysis of stress-strain, 4 is the number of knots and R means reduced integral in which the number of points for calculating integral has decreased. The features of the FRP materials used in this shear wall are in table 1.

**Table 3.** the features of FRP materials

<table>
<thead>
<tr>
<th>$\sigma_f$ (MPa)</th>
<th>$\epsilon_f$</th>
<th>$\nu$</th>
<th>$E$ (GPa)</th>
<th>$\gamma$ (kg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>resistance final strain</td>
<td>final strain</td>
<td>poison ratio</td>
<td>model elasticity</td>
<td>specific weight</td>
</tr>
<tr>
<td>3200</td>
<td>25.0</td>
<td>3.0</td>
<td>420</td>
<td>1200</td>
</tr>
</tbody>
</table>

The dimensional features of this FRP are 1.2m length, 1.2m width and 9mm thickness, which in 1.3 and 2.3 they have covered the length of the wall. In figures () the form and meshing of the FRPs is seen.

The type of analysis used is cyclic that is done in an incoming and outgoing way to the upper part of the wall. The backrest condition is that the lower part of the wall, which is the foundation, is supposed as completely tangly. The loads entered to the wall despite simplicity in the construction and designing, the general behavior of the walls is a combination of shear bending and axial responses. The sections of the wall are exposed to operating axial pressures on the wall and up to 10% are the multiplication of the pressure resistance of the concrete on the surface of the wall. Loads that are entered to the wall are a lateral type in form of movement by a hydraulic lever in an incoming and outgoing horizontal load, the extent of which is 556 kilo-newton and a pressure load that is entered vertically to the wall with an extent of 379.2 kilo/newton.

The results of the reinforcement of the shear wall by use of FRP materials in a local way

As expected from the functioning of the shear wall under lateral loads with FRP materials the portage increased and also there was little change in the formability of the wall and the reduction of the tension in longitudinal fittings, but the main defect of this reinforcement method is that the upper and lower part of the wall that are covered with FRP are intact and resistant against the pressure and strain forces, but the middle part of the reinforced concrete that is not invigorated caused that all pressures and straining forces enter to that area and the destruction mechanism takes place there. As seen in diagram 1, the portage capacity of the shear wall is reinforced by 14.4% and due to this increase, the formability of the shear wall changes from 3.3 to 3.5.

Problem no.2: reinforcement of the reinforced concrete shear wall by use of FRP materials in a plaid pattern

As expected from the functioning of the shear wall under lateral loads with FRP materials the portage increased and also there was little change in the formability of the wall and the reduction of the tension in longitudinal fittings, but the defect occurring in problem 1 doesn’t occur here. As seen in diagram 1, the portage capacity of the reinforced shear wall increases by 26%, and due to this increase, the formability of the wall changes from 3.3 to 3.88.
Problem no.3: reinforcement of the reinforced concrete shear wall by use of FRP materials in a one-way diagonal from left

As expected from the functioning of the shear wall under lateral loads with FRP materials the portage increased and also there was little change in the formability of the wall and the reduction of the tension in longitudinal fittings, but the main defect of this way is that the direction of FRP is against the straining fractions, thus, its effect of reinforcement on the wall is not considerable. As seen in diagram 1, the portage capacity of the shear wall is increased by 11.3% and due to this increase, the formability of the wall changes from 3.3 to 3.45.

Problem no.4: reinforcement of the reinforced concrete shear wall by use of FRP materials in a one-way diagonal from right

As expected from the functioning of the shear wall under lateral loads with FRP materials the portage increased and also there was little change in the formability of the wall and the reduction of the tension in longitudinal and latitudinal fittings, and the defect occurring in previous problem is obviated, since the direction of FRP is same as straining fractions and we observe a better behavior by the wall. As seen in diagram 1, the portage capacity of the shear wall is increased by 17.8% and due to this increase, the formability of the wall changes from 3.3 to 3.63.

Results gained from reinforcement of the shear wall by FRP materials in a one-way diagonal from right

Problem no.5: reinforcement of the reinforced concrete shear wall by use of FRP materials in a cross way

As expected from the functioning of the shear wall under lateral loads with FRP materials the portage increased and also there was little change in the formability of the wall and the reduction of the tension in longitudinal and latitudinal fittings, and as we see the behavior of this shear wall is better than the other two problems, since the direction of FRP is same as pressure and straining fractions. As seen in diagram 1, the portage capacity of the shear wall is increased by 22.6% and due to this increase, the formability of the wall is changed from 3.3 to 3.75.

Problem no.6: reinforcement of the reinforced concrete shear wall by use of FRP materials in a full way

As expected from the functioning of the shear wall under lateral loads with FRP materials the portage increased and also there was little change in the formability of the wall and the reduction of the tension in longitudinal and latitudinal fittings, and the main defect in the local reinforcement doesn’t occur here, and the destructions caused by the strain and pressure are gone, since the whole reinforced concrete shear wall is surrounded by FRP fully. In the below figures the contour of the tension and displacement within the wall’s length could be seen. As seen in diagram 1, the portage capacity of the shear wall is increased by 28.8% and due to this increase, the formability of the shear wall increases from 3.3 to 3.95.

**COMPARISON OF THE FORCE-DISPLACEMENT DIAGRAM IN THE 6 CASES OF STUDY**

Now we can draw the 6 studied cases in one diagram and observe the extent of increase of the portage capacity and changes of displacement and formability of the reinforced concrete shear wall.
Diagram 1. Comparison of 6 force-displacement diagrams of the wall for the 6 cases of study

In the below table we can see the extent of final load, final displacement and the formability of each shear wall under the effect of reinforcement by FRP materials. As seen in the below table, the highest portage capacity and formability occur in the 6th case.

Table 4. Results of the final load, displacement and formability of the shear wall

<table>
<thead>
<tr>
<th>Formability of the shear wall</th>
<th>Final displacement (mm)</th>
<th>Final load (KN)</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3</td>
<td>66</td>
<td>146</td>
<td>Original wall</td>
</tr>
<tr>
<td>5.3</td>
<td>70</td>
<td>167</td>
<td>Problem no.1</td>
</tr>
<tr>
<td>88.3</td>
<td>5.77</td>
<td>184</td>
<td>Problem no.2</td>
</tr>
<tr>
<td>45.3</td>
<td>69</td>
<td>5.162</td>
<td>Problem no.3</td>
</tr>
<tr>
<td>63.3</td>
<td>5.72</td>
<td>172</td>
<td>Problem no.4</td>
</tr>
<tr>
<td>75.3</td>
<td>75</td>
<td>179</td>
<td>Problem no.5</td>
</tr>
<tr>
<td>95.3</td>
<td>79</td>
<td>188</td>
<td>Problem no.6</td>
</tr>
</tbody>
</table>

CONCLUSION

Non-linear analyses offer a strong tool for prediction of the behavior of reinforced concrete shear wall. These studies caused essential changes in the instructions and methods of designing concrete elements. The passing of time, constructive damages and weakness of old instructions have caused the improper functioning of existing constructs against earthquakes. On the other hand, in recent years composite materials have gained many applications in reinforcement of constructive elements. Top features of these materials have led them to the first options in reinforcement projects. However, a review of previous studies shows there has been no experimental test or analysis on the reinforcement of concrete thin shear
wall by FRP materials. The evaluation of the seismic behavior of the reinforced concrete thin shear wall by FRP materials under lateral loads resulted in the following items:

- In examining the effect of lateral loads on the reinforced concrete shear wall considering the non-linear geometric effects and materials simultaneously is necessary.

- The extent of the energy of lateral loads and their place of impact has a significant effect on the response of the reinforced concrete shear wall.

- Considering the direction of the effect of lateral loads in the area of the concrete construct that is exposed to the effect of strain, we require a higher level of reinforcement compared with the pressure area.

- Use of experimental tests besides confirming the authenticity of this modeling can be also useful in detection of defects and potential inaccuracies.

- Reinforcement by FRP materials has significant effects on the functioning of the construct’s behavior against lateral loads and can reduce the maximum displacement that is the sign of destruction and tension in the fittings inside the concrete.

- By reinforcement of the concrete shear wall by FRP materials in a full way, the portage capacity of the wall increases by 28.8% and due to this increase, the formability of the shear wall would also increase by 20% and there would be an optimal functioning under the effect of lateral forces.

- As we see when the yarn of the FRP tapes are in direction of longitudinal armatures, the behavior of the shear wall would improve against the lateral loads and would gain an optimal functioning.

- Use of CFRP screens has a less final displacement compared with GFRP and AFRP screens. This is due to the less final resistance and thus, the final strain of CFRP compared with GFRP. Thus, depending on the type and place of reinforcement, we can use polymeric screens made from glass or carbon.

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DEVELOPING NEW CHARGED SYSTEM SEARCH-BASED ALGORITHM:
APPLICATION IN THE TIME-COST TRADE-OFF PROBLEMS

M.K. Sharbatdar
Faculty of Civil Engineering, Semnan University, Semnan, Iran
msharbatdar@semnan.ac.ir

S. Talatahari
Engineering, University of Tabriz, Tabriz, Iran Department of Civil
talatahari@tabrizu.ac.ir

M.R. Mousavi
Faculty of Civil Engineering, Semnan University, Semnan, Iran
rm_Mousavi@semnan.ac.ir

ABSTRACT
The trade-off between the total cost and project duration is one of the most important parameters of
cost project planning. There are various methods to optimize time-cost trade-off problems.
Mathe matical programming models as one of them cannot solve large and complex networks
effectively. On the other hand, although the meta-heuristics algorithms in many cases can find a complete set
of solutions but to optimize the time-cost trade-off problems in very massive construction projects they need
to spend a lot of time, so existence a powerful algorithm with higher convergence rate is necessary. In this
paper new procedures MAWA-CSS and SMOCSS are introduced to generalize the well-known CSS
algorithm for solving TCTP optimization problem and all multi-objective optimization problems in discrete
and continuous search space. The overall structure of SMOCSS algorithm is similar to the MOPSO and to
determine the Charge magnitude of particles a new simple method is introduced. The proposed method is
examined for different test functions and the results are compared to the results of two well-known multi-
objective algorithms (NSGA-II and MOPSO). In addition, two example of time-cost optimization problem
(Feng and Zheng network with 18 and 7 activities respectively) are used to evaluate the performance of the
proposed algorithms. The results indicate that the SMOCSS algorithm has the ability to find out the optimal
solution and define the Pareto front as well in reasonable time. Hence the proposed approach in this paper is
much adaptive and suitable for tackling TCTP, which is useful and beneficial for decision-making on the
trade-off between project duration and total cost.

Keywords: Time-Cost Trade-off Problems (TCTP), multi-objective optimization, meta-heuristics
algorithms, Charged System Search (CSS)

INTRODUCTION
The complexities and difficulties of a construction project causes changes in costs and timing of the project
in the implementation phase. With the rapid expansion of the use of various systems project delivery, time is
a determining factor in the evaluation of tenders and the manufacturing process. Therefore, construction
managers not focus just on reducing costs but the project execution time is also so important. Forasmuch the
compression of time will inevitably lead to a gradual increase in direct costs of the project, in project
management, achieving optimal time-cost of the project becomes very important [1-3].

Several mathematical models such as linear programming [4, 5], integer programming, or dynamic
programming [2, 6, 7] and LP/IP hybrid models are used to solve TCTPs [8, 9]. These methods are not
suitable for large scale projects and cannot find all possible solutions [10]. Because of the population-based
nature of multi-objective evolutionary algorithms and their ability to find multiple optima simultaneously [11, 12], several different algorithms have been suggested in recent years to solve TCTP which can include Non-Dominated Sorting Genetic Algorithm (NSGA II) [3, 10] Particle Swarm Optimization (PSO) [13], Adaptive Weighted Approach (AWA) and etc. [14-16]. In this study, the main contribution is on introducing different multi-objective CSS algorithms that, in addition to simplicity, they are capable on finding global optimum solutions and have high convergence rate.

The charged System Search (CSS) is one of the recently introduced single-objective optimization algorithm which have been used in science and engineering optimization problems successfully. This method mixes the governing motion from Newtonian mechanics and the governing Coulomb law from physics. In the CSS algorithm, each possible solution corresponds to a charged particle (CP) which can impose an attractive electric force on other CPs according to Coulomb’s law. The next position of each CP is determined by Calculating the resultant forces acting on the CP and applying the kinematic equations [17-19]. The results of this algorithm compared with each other and with some other well-known multi-objective optimization methods. Also we will use the well-known these approaches to solve time-cost problem.

PRELIMINARIES

BASIC CONCEPTS IN MULTI-OBJECTIVE OPTIMIZATION MOO

For better understanding of the Multi-Objective Problems (MOPs), acquaintance with the following concepts are necessary [20]:

General Multi-objective Optimization Problem: The aim in a multi-objective optimization for minimization problem is finding a vector \( x = (x_1, x_2, \ldots, x_n) \) which satisfies \( k \) inequality constraints as:

\[
q_i(x) \leq 0 \quad (i = 1, 2, \ldots, k)
\]

and \( l \) equality constraints:

\[
h_i(x) = 0 \quad (i = 1, 2, \ldots, l)
\]

and minimizes the vector function

\[
Min_{x \in \Omega} F(x) = \{ f_1(x), f_2(x), \ldots, f_m(x) \}
\]

Where \( m \) is the number of objectives and \( \Omega \) is a set of the decision vector.

Pareto Dominance: A vector \( u = (u_1, u_2, \ldots, u_n) \) dominates vector \( v = (v_1, v_2, \ldots, v_n) \) (denoted by \( u < v \)) if and only if \( u \) is partially less than \( v \), i.e.,

\[
\forall i \in \{1, 2, \ldots, n\}, \quad u_i \leq v_i \land \exists i \in \{1, 2, \ldots, n\} : u_i < v_i.
\]

Pareto Optimal: A solution \( x \in \Omega \) is Pareto Optimal with respect to \( \Omega \) if and only if there is no \( x' \in \Omega \) for which \( v = (f_1(x'), f_2(x'), \ldots, f_n(x')) \) dominates \( u = (f_1(x), f_2(x), \ldots, f_n(x)) \).

Pareto Optimal Set: For a given MOP, \( F(x) \), the Pareto Optimal Set, \( P \), is defined as

\[
P = \{ x \in \Omega | \neg \exists x' \in \Omega : F(x') < F(x) \}.
\]

Pareto Optimal Front: For a given MOP, \( F(x) \), and Pareto Optimal Set, \( P \), the Pareto Front \( PF \) is defined as

\[
PF = \{ u = F(x) | x \in P \}.
\]
A solution is said to be Pareto Optimal if it is not dominated by any other solutions in the search space, also termed as non-dominated solution. In this paper, we distinguish the real Pareto Optimal front, termed \( PF_{\text{real}} \), and the final set of non-dominated solutions obtained by a multi-objective optimization algorithm, termed \( PF_{\text{algorithm}} \) as defined by the aim of the multi-objective optimization algorithms is to find a well uniformly distributed \( PF_{\text{algorithm}} \) that approximates \( PF_{\text{algorithm}} \) as close as possible.

**CHARGED SYSTEM SEARCH**

Charged System Search (CSS) algorithm, introduced by Kaveh and Talatahari [17], is based on electrostatic and Newtonian mechanics laws. In the CSS algorithm, charged particles (CPs) are assumed to be the candidate solutions. Charged particle are affected by the electric field that created by other particles. The amount of force exerted on each CP, are obtained using the electrostatic rules. Also, the motion of each CP is determined by the rules of Newtonian mechanics and the charge magnitude of each particle will be determined according to the value of the objective function [17-19]. Fig. 1 shows the pseudo-code of the CSS algorithm.

![Fig. 1: pseudo-code of the CSS algorithm.](image)

**TCTP PROBLEM FORMULATION**

In the trade-off between the total cost and project duration problems (TCTP), there are twin objectives to be minimized: the project time and its cost. In a project, a two-objective optimization problem should be solved as follows:

\[
\begin{align*}
\text{min } & \quad T \\
\text{min } & \quad C
\end{align*}
\]  

(5)

Where \( T \) is the total project time and \( C \) is the total project cost that they are defined as:

\[
\begin{align*}
T &= \max_{L \in L_k}\left[ \sum_{i \in L_k} t_i^{(k)} x_i^{(k)} \right] \\
C &= \sum_{i \in A} dc_i^{(k)} x_i^{(k)} + T \times ic_i^{(k)}
\end{align*}
\]  

(6)
Where \( A \) is the number of activities, \( t_i^k \) represents the duration of activity \( i \) when performing the \( k \)th option, \( x_i^k \) stands for the index variable of activity \( i \) when performing the \( k \)th option. If \( x_i^k = 1 \) then the activity \( i \) perform the \( k \)th option. The sum of index variables of all options should be equal to 1. \( L_k \) means the activity sequence on the \( k \)th path, and \( L_k = \{i_{1k}, i_{2k}, ..., i_{nk}\} \) where \( i_j \) represents the sequence number of activity \( j \) on the \( k \)th path. \( L \) stands for the set of all paths of a network, and \( L = \{L_k \ k=1, 2,..., m\} \), where \( m \) symbolizes the number of all paths of a network. \( dc_i^k \) and \( ic_i^k \) represent the direct and indirect cost of activity \( i \) when performing the \( k \)th option, respectively [3, 13, 16].

**NEW SIMPLE MULTI-OBJECTIVE CHARGED SYSTEM SEARCH (SMOCSS)**

Due to the high convergence and large capability of CSS algorithm [17] we produced a new simple multi-objective optimization algorithm based on CSS algorithm (SMOCSS) that, in addition to simplicity, is capable of finding global optimum solutions and have high convergence rate [21-23]. The flowchart of this algorithm is shown schematically in Fig.2.

**CHARGED SYSTEM SEARCH FOR MODIFIED ADAPTIVE WEIGHT APPROACH (MAWA-CSS-TCTP)**

TCTP problem is a multi-objective optimization problem. One positive trend to solve this problem is Modified Adaptive Weight Approach [16]. In this paper based on Charged System Search algorithm and modified adaptive weighting method a model is developed and pareto front is achieved. The main steps of MAWA-CSS algorithm for TCTP are described as follows:

1) Randomly generation of initial solutions.

2) Computing the project duration and total cost from Eq.2.
3) Choosing the dominant answers and adding to the Pareto solution set

4) Calculating the alternative fitness value as:

\[ f(X) = \frac{Z_t - Z_{t}^{\text{min}} + \gamma}{Z_{t}^{\text{max}} - Z_{t}^{\text{min}} + \gamma} + \frac{Z_c - Z_{c}^{\text{min}} + \gamma}{Z_{c}^{\text{max}} - Z_{c}^{\text{min}} + \gamma} \]  

(11)

Which \( Z_{t}^{\text{min}} \) and \( Z_{t}^{\text{max}} \) as the minimal value and maximal value for the objective of duration respectively, \( Z_{c}^{\text{min}} \) and \( Z_{c}^{\text{max}} \) as the maximal value and minimal value for the objective of cost respectively, \( w_t \) and \( w_c \) are adaptive weight for the criterion of time and cost respectively that can be calculate by considering this conditions as:

\[
\begin{align*}
\text{if} & \quad Z_{t}^{\text{min}} = Z_{t}^{\text{min}} \quad \text{and} \quad Z_{c}^{\text{max}} = Z_{c}^{\text{max}} \\
& \quad w_t = 0.5, \quad w_c = 0.5 \\
\text{else if} & \quad Z_{t}^{\text{min}} = Z_{t}^{\text{min}} \quad \text{and} \quad Z_{c}^{\text{max}} = Z_{c}^{\text{min}} \\
& \quad w_t = 0.9, \quad w_c = 0.1 \\
\text{else if} & \quad Z_{t}^{\text{min}} = Z_{t}^{\text{max}} \quad \text{and} \quad Z_{c}^{\text{max}} = Z_{c}^{\text{min}} \\
& \quad w_t = 0.1, \quad w_c = 0.9 \\
\text{else if} & \quad Z_{t}^{\text{max}} = Z_{t}^{\text{max}} \quad \text{and} \quad Z_{c}^{\text{min}} = Z_{c}^{\text{min}} \\
& \quad w_t = \frac{v_t}{v_t + v_c}, \quad w_c = \frac{v_c}{v_t + v_c} \\
\end{align*}
\]

5) Determine charge magnitude for all the particles in population as:

\[
q_i = \frac{\text{fit}(i) - \text{fit}_\text{worst}}{\text{fit}_\text{best} - \text{fit}_\text{worst}}, \quad i = 1, 2, ..., N
\]  

(12)

Where \( \text{fit}_\text{best} \) and \( \text{fit}_\text{worst} \) are the so far best and the worst fitness of all particles; \( \text{fit}(i) \) represents the objective function value or the fitness of the agent \( i \), and \( N \) is the total number of particles.

6) Initialize the F vector (resultant force vector acted on each particle) and determine the resultant force exerted to each particle.

7) Compute the new position and velocity of each particle.

8) Maintain the particles within the search space [22].

9) Repeating step 2 to step 8 until the generated Pareto solutions are repeated and there is no new solution in the generated set.

**NUMERICAL EXAMPLES**

**PERFORMANCE METRICS**

In order to provide a quantitative assessment for the performance of an MO optimizer, three issues are often taken into consideration [24]:

a) The distance of the resulting non-dominated set to the Pareto-optimal front should be minimized.
b) A good (in most cases uniform) distribution of the solutions found is desirable. The assessment of this criterion might be based on a certain distance metric.

c) The extent of the obtained non-dominated front should be maximized, i.e., for each objective, a wide range of values should be covered by the non-dominated solutions.

Comparative studies performed by researchers such as [23-26] made use of a suite of unary performance metrics pertinent to the optimization goals of proximity, distribution, and diversity. In this paper, three different qualitative measures are utilized.

Generational distance (GD) is a measure of the distance between the true \((PF_{real})\) and generated Pareto front \((PF_{algorithm})\). This metric of individual distance representing the distance is given by

\[
GD = \frac{1}{n_{pf}} \sum_{i=1}^{n_{pf}} d_i^2
\]  

Where \(n_{pf}\) is the number of members in \(PF_{algorithm}\) and \(d_i\) is the Euclidean distance between the \(i^{th}\) member in \(PF_{algorithm}\) and its nearest member in \(PF_{real}\). A smaller value of GD implies better convergence.

The metric of spacing (S) gives an indication of how evenly the solutions are distributed along the discovered Pareto-front:

\[
S = \sqrt{n_{pf} \sum_{i=1}^{n_{pf}} (d_i - \bar{d})^2} , \quad \bar{d} = \frac{1}{n_{pf}} \sum_{i=1}^{n_{pf}} d_i
\]  

Where \(n_{pf}\) is the number of members in \(PF_{algorithm}\) and \(d_i\) is the Euclidean distance (in the objective space) between the \(i^{th}\) member in \(PF_{algorithm}\) and its nearest member in \(PF_{algorithm}\). A smaller value of S implies a more uniform distribution of solutions in \(PF_{algorithm}\).

The metric of maximum spread \((MS)\) measures how ‘‘well’’ the \(PF_{real}\) is covered by the \(PF_{algorithm}\) through hyper-boxes formed by the extreme function values observed in the \(PF_{real}\) and \(PF_{algorithm}\). It is defined as:

\[
MS = \left( \frac{1}{m} \sum_{i=1}^{m} \left( \frac{\text{min}(F_{i,\text{max} \_PF_{real}}) - \text{max}(F_{i,\text{min} \_PF_{algorithm}})}{F_{i,\text{max} \_PF_{real}} - F_{i,\text{min} \_PF_{real}}} \right)^2 \right)^{0.5}
\]  

Where \(m\) is the number of objectives, \(F_{i,\text{max}}\) and \(F_{i,\text{min}}\) are the maximum and minimum of the \(i^{th}\) objective in \(PF_{algorithm}\), respectively, and \(F_{i,\text{max} \_PF_{real}}\) and \(F_{i,\text{min} \_PF_{real}}\) are the maximum and minimum of the \(i^{th}\) objective in \(PF_{real}\), respectively. A larger value of MS implies a better spread of solutions.

**TEST PROBLEMS**

Four benchmark problems ZDT1, ZDT3, FON and POL are selected to examine the performance of the proposed algorithm. The test problems are detailed in table 1 [26-29].

<table>
<thead>
<tr>
<th>Test problem</th>
<th>Mathematical formulas</th>
<th>Range of variables</th>
<th>Number of variables</th>
</tr>
</thead>
</table>
| ZDT1         | \[ \begin{align*}
    f_1(x) &= x_1 \\
    f_2(x) &= g(x) \left( 1 - \frac{x_1}{g(x)} \right) \\
    g(x) &= 1 + \frac{9}{n-1} \sum_{i=2}^{n} x_i
    \end{align*} \] | \(0 \leq x \leq 1\) | 30 |

| Table 1: Benchmark test problems ZDT1, ZDT3, FON and POL |
CASE STUDY IN TCTP

In this paper we will use multi-objective CSS algorithms mentioned in next sections to solve two well-known time-cost optimization problems named as the Feng network activities and the Zheng network activities. The Feng network with 18 activities is one of the most well-known examples for time-cost optimization problem that has attracted the attention of many researchers [3]. Configuration and activities network options of Feng network are shown in Fig. 3 and Table 2 respectively. In addition to Feng activities network, another activities network with 7 activities introduced by Zheng considered as second example. Configuration and activities network options of Zheng network are shown in Fig. 4 and Table 3 respectively [10].
Table 2: Time, Cost, Number of executive options and Prerequisites of activities of Feng network

<table>
<thead>
<tr>
<th>No</th>
<th>Pr</th>
<th>Op</th>
<th>Ti</th>
<th>Cost</th>
<th>No</th>
<th>Pr</th>
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<td>2150</td>
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<td>1500</td>
<td>5</td>
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<td>1200</td>
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<td>2</td>
<td>18</td>
<td>32000</td>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>

Fig. 4: Configuration of Zheng network activities

Table 3: Time, Cost, Number of executive options and Prerequisites of activities of Zheng network

<table>
<thead>
<tr>
<th>No</th>
<th>Pr</th>
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</tbody>
</table>
In order to illustrate the efficiency of our method, it is compared with two of most well-known multi-objective optimization algorithms named as NSGA_II and MOPSO. Parameters for comparison are include: mentioned qualitative measures (GD, S and MS) and the relative average running time of the algorithms (average running time of the algorithms divided on average running time of the SMOCSS algorithm). A random initial population is created for each of the 10 runs on each test problem. All of the algorithms are implemented in Matlab. The results obtained for test problems can be presented as follows:

Test problem 1- ZDT1

The comparison of results between the Pareto fronts produced by NSGA-II, MOPSO and SMOCSS of ZDT1 and the true Pareto front are shown in Fig. 5(a)–(c), respectively.

Fig.5: Pareto fronts produced by (a) NSGA-II, (b) MOPSO and (c) SMOCSS on test function ZDT1.
From the Fig. 5, it can be observed that all algorithms are able to find solutions near the global Pareto front. The values of the three metrics for each algorithm are shown in Table 4. Considering all of the metrics from Table 4, it can be seen that new algorithm (SMOCSS) is the best among the three adopted algorithms.

Table.4: Results for ZDT1: The mean values of the three metrics and relative run time for each algorithm

<table>
<thead>
<tr>
<th></th>
<th>NSGA_II</th>
<th>MOPSO</th>
<th>SMOCSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GD (mean)</td>
<td>0.0149</td>
<td>0.1299</td>
<td>0.0058</td>
</tr>
<tr>
<td>S (mean)</td>
<td>0.0030</td>
<td>0.1261</td>
<td>0.0030</td>
</tr>
<tr>
<td>MS (mean)</td>
<td>0.9761</td>
<td>0.9879</td>
<td>1</td>
</tr>
<tr>
<td>Relative Run Time</td>
<td>5.41</td>
<td>1.35</td>
<td>1</td>
</tr>
</tbody>
</table>

Test problem 2- ZDT3

The comparison of results between the Pareto fronts produced by NSGA-II, MOPSO and SMOCSS of ZDT3 and the true Pareto front are shown in Fig. 6(a)–(c), respectively.

Fig.6: Pareto fronts produced by (a) NSGA-II, (b) MOPSO and (c) SMOCSS on test function ZDT3.

From the Fig.6 it can be revealed that the NSGA_II and the MOPSO algorithms are stuck in a local Pareto optimum, but the SMOCSS algorithm is able to evolve a diverse and well distributed near-optimal Pareto front by spending less run time. The values of the three metrics for each algorithm are shown in Table 5. Considering all of the metrics from Table 5, it can be seen that new algorithm (SMOCSS) is the best among the three adopted algorithms.

Table.5: Results for ZDT3: The mean values of the three metrics and relative run time for each algorithm

<table>
<thead>
<tr>
<th></th>
<th>NSGA_II</th>
<th>MOPSO</th>
<th>SMOCSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GD (mean)</td>
<td>0.4389</td>
<td>0.211</td>
<td>0.0079</td>
</tr>
<tr>
<td>S (mean)</td>
<td>0.2917</td>
<td>0.0084</td>
<td>0.0039</td>
</tr>
<tr>
<td>MS (mean)</td>
<td>0.6978</td>
<td>0.6713</td>
<td>0.9102</td>
</tr>
<tr>
<td>Relative Run Time</td>
<td>4.89</td>
<td>1.13</td>
<td>1</td>
</tr>
</tbody>
</table>

Test problem 3- FON

The comparison of results between the Pareto fronts produced by NSGA-II, MOPSO and SMOCSS of FON and the true Pareto front are shown in Fig. 7(a)–(c), respectively.

Table.6: Results for FON: The mean values of the three metrics and relative run time for each algorithm
From the Fig.7 it can be seen that all algorithms are able to evolve a diverse and well distributed near-optimal Pareto front for this problem but the computation time required for NSGA_II and MOPSO algorithms are more than the run time required for SMOCSS algorithm. So that even the NSGA_II run time about 4.5 times more that the same for our algorithm. The values of the three metrics for each algorithm are shown in Table 6. Considering all of the metrics from Table 6, it can be seen that all algorithms are usable to optimizing this problem.

Test problem 4- POL

The comparison of results between the Pareto fronts produced by NSGA-II, MOPSO and SMOCSS of POL and the true Pareto front are shown in Fig. 8(a)–(c), respectively. From the Fig.8 it can be seen that similar to the previous problem, all algorithms are able to evolve an almost diverse and well distributed near-optimal Pareto front for this problem but the computation time required for NSGA_II and MOPSO algorithms are more than the run time required for SMOCSS algorithm. So that even the NSGA_II run time about 4 times more that the same for our algorithm. The values of the three metrics for each algorithm are shown in Table

<table>
<thead>
<tr>
<th></th>
<th>NSGA_II</th>
<th>MOPSO</th>
<th>SMOCSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GD (mean)</td>
<td>0.0016</td>
<td>0.0006</td>
<td>0.008</td>
</tr>
<tr>
<td>S (mean)</td>
<td>0.0012</td>
<td>0.0004</td>
<td>0.0005</td>
</tr>
<tr>
<td>MS (mean)</td>
<td>0.9960</td>
<td>0.9994</td>
<td>0.9991</td>
</tr>
<tr>
<td>Relative Run Time</td>
<td>4.53</td>
<td>1.09</td>
<td>1</td>
</tr>
</tbody>
</table>

Fig.7: Pareto fronts produced by (a) NSGA-II, (b) MOPSO and (c) SMOCSS on test function FON.
7. Considering all of the metrics from Table 7, it can be seen that NSGA-II is better than MOPSO but it requires more run time and both of this two algorithms are not as good as SMOCSS.

![Fig.8: Pareto fronts produced by (a) NSGA-II, (b) MOPSO and (c) SMOCSS on test function POL.](image)

**Table 7:** Results for POL: The mean values of the three metrics and relative run time for each algorithm

<table>
<thead>
<tr>
<th></th>
<th>NSGA-II</th>
<th>MOPSO</th>
<th>SMOCSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GD (mean)</td>
<td>0.0493</td>
<td>0.0701</td>
<td>0.0277</td>
</tr>
<tr>
<td>S (mean)</td>
<td>0.0210</td>
<td>0.0478</td>
<td>0.0121</td>
</tr>
<tr>
<td>MS (mean)</td>
<td>0.9900</td>
<td>0.9908</td>
<td>0.9961</td>
</tr>
<tr>
<td>Relative Run Time</td>
<td>4.16</td>
<td>1.01</td>
<td>1</td>
</tr>
</tbody>
</table>

The Feng and the Zheng activities network, mentioned in section 3, were solved by NSGA-II, MOPSO, MAWA-CSS and SMOCSS algorithms and the results were compared in the number of non-dominated solutions and relative run time of algorithms. All of the algorithms are implemented in Matlab and each problem was solved 10 times and mean of results was recorded. Table 8 shows the number of non-dominated solutions and relative run time of algorithms.

**Table 8:** The number of non-dominated solutions and relative run time of algorithms.

<table>
<thead>
<tr>
<th>Network</th>
<th>the number of non-dominated solutions</th>
<th>Run Time of the SMOCSS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NSGA-II</td>
<td>MOPSO</td>
</tr>
<tr>
<td>Feng</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>Zheng</td>
<td>23</td>
<td>23</td>
</tr>
</tbody>
</table>

It can be seen from table 8 that SMOCSS algorithm is faster than other algorithms and also is able to find all solutions in pareto set and MAWA-CSS is not as good as SMOCSS algorithm but is faster than MOPSO and NSGA-II. Furthermore, sometimes the MOPSO and the NSGA-II could not find all solutions of Feng.
activities network.

As a result of solving the Zheng and Feng activities networks with SMOCSS following solutions achieved (table 9 and table 10).

**Table 9: Results of solving the Zheng activities networks with SMOCSS**

<table>
<thead>
<tr>
<th>Time</th>
<th>Cost</th>
<th>Time</th>
<th>Cost</th>
<th>Time</th>
<th>Cost</th>
<th>Time</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>143500</td>
<td>67</td>
<td>123500</td>
<td>78</td>
<td>107500</td>
<td>92</td>
<td>98300</td>
</tr>
<tr>
<td>61</td>
<td>142500</td>
<td>68</td>
<td>118500</td>
<td>81</td>
<td>106900</td>
<td>94</td>
<td>97800</td>
</tr>
<tr>
<td>62</td>
<td>140000</td>
<td>71</td>
<td>117900</td>
<td>83</td>
<td>105500</td>
<td>95</td>
<td>97500</td>
</tr>
<tr>
<td>63</td>
<td>131000</td>
<td>73</td>
<td>117300</td>
<td>84</td>
<td>101500</td>
<td>97</td>
<td>97000</td>
</tr>
<tr>
<td>65</td>
<td>130400</td>
<td>74</td>
<td>112500</td>
<td>87</td>
<td>99500</td>
<td>105</td>
<td>96200</td>
</tr>
<tr>
<td>66</td>
<td>128500</td>
<td>77</td>
<td>110500</td>
<td>90</td>
<td>98900</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 10: Results of solving the Feng activities networks with SMOCSS**

<table>
<thead>
<tr>
<th>Time</th>
<th>Cost</th>
<th>Time</th>
<th>Cost</th>
<th>Time</th>
<th>Cost</th>
<th>Time</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>133320</td>
<td>111</td>
<td>106020</td>
<td>125</td>
<td>102820</td>
<td>142</td>
<td>100870</td>
</tr>
<tr>
<td>101</td>
<td>128320</td>
<td>112</td>
<td>105770</td>
<td>126</td>
<td>102570</td>
<td>143</td>
<td>100770</td>
</tr>
<tr>
<td>102</td>
<td>128070</td>
<td>114</td>
<td>105270</td>
<td>128</td>
<td>102320</td>
<td>145</td>
<td>100570</td>
</tr>
<tr>
<td>103</td>
<td>127820</td>
<td>115</td>
<td>105020</td>
<td>131</td>
<td>102170</td>
<td>148</td>
<td>100270</td>
</tr>
<tr>
<td>104</td>
<td>120320</td>
<td>116</td>
<td>104770</td>
<td>132</td>
<td>101970</td>
<td>151</td>
<td>100070</td>
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<td>101820</td>
<td>154</td>
<td>100010</td>
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<tr>
<td>106</td>
<td>119820</td>
<td>119</td>
<td>104220</td>
<td>134</td>
<td>101570</td>
<td>156</td>
<td>99950</td>
</tr>
<tr>
<td>107</td>
<td>119770</td>
<td>120</td>
<td>103970</td>
<td>137</td>
<td>101510</td>
<td>158</td>
<td>99900</td>
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<tr>
<td>108</td>
<td>119270</td>
<td>121</td>
<td>103820</td>
<td>138</td>
<td>101470</td>
<td>159</td>
<td>99870</td>
</tr>
<tr>
<td>109</td>
<td>119020</td>
<td>122</td>
<td>103570</td>
<td>139</td>
<td>101170</td>
<td>161</td>
<td>99820</td>
</tr>
<tr>
<td>110</td>
<td>106270</td>
<td>124</td>
<td>103070</td>
<td>140</td>
<td>100970</td>
<td>169</td>
<td>99740</td>
</tr>
</tbody>
</table>

Fig. 9 and Fig. 10 shows all results of solving the Zheng and Feng activities networks by SMOCSS respectively.

![Fig. 9: All results of solving the Zheng activities networks by SMOCSS.](image-url)
CONCLUSION
In this paper, a new multi-objective optimization algorithm, named as SMOCSS, is proposed. The proposed algorithm is based on the recently developed algorithm, charge system search (CSS). In this approach, each particle creates an electrical field around itself and consequently affects other particles by a force which is a result of this attraction field. By this pattern, better particles attract worse particles. The overall structure of this new algorithm is similar to the MOPSO and to determine the Charge magnitude of particles a new simple method is introduced. A comparative study of SMOCSS and two state-of-the-art MO algorithms on four benchmark test problems is presented. The results of applying three performance metrics clearly indicate that SMOCSS is competitive and even outperforms most of the selected MO algorithms. The comparison of the computational time shows that SMOCSS requires less computer time than the selected MO algorithms on some of the selected benchmark test problems.

Construction time-cost trade-off problems are large scale two-objective optimization problems and finding out all solutions in Pareto set with spending reasonable time is very important. By generalizing the well-known Charged Search System (CSS), with using of a new method (SMOcss), to optimize multi-objective problems, not only the optimal solution could be found in reasonable time, but also the Pareto front could be defined that will provide more effective information and basis for further and correct decision-making. The result of proposed model is compared with MAWA-CSS algorithm, as another multi-objective optimizer, and also NSGA-II and it is concluded that current procedure of modeling TCTP has several advantages especially in terms of generating better solutions and consuming less time for solving the problem.

REFERENCES
INVESTIGATION OF FUEL CONSUMPTION AND EMISSIONS OF TRUCKS BY DESIGNING OPTIMAL BODY

Mehrdad Khosravi
Young Researchers and Elite Club, Borujerd Branch, Islamic Azad University, Borujerd, Iran
mehrdad.khosravi67@gmail.com

Majid Oveisi
Lecturer, Department of marine Engineering, Chabahar, Maritime University.

Ebrahim Mahmoudpour
Islamic Azad University, Boroujerd Branch, Mechanic Faculty

ABSTRACT
One of the primary concerns in automotive industry is energy saving, protecting the global environment and fuel consumption reduction. The main objective for this paper is to study the possibility to improve the aerodynamic performance for boosting fuel economy of trucks, by optimal designing of supplementary devices. This will be carried out by using integrated computational fluid dynamic and genetic algorithm for simulation and geometry optimization of applied devices. In addition, simulation results are verified by experimental results in wind tunnel. For this purpose, effects of various supplementary devices and configuration are added to space between cabin and cargo compartment to stabilize the vortex and decrease the drag resistance force. Finally, the geometry of appended device with considering the installation and packing conditions, is optimized by using genetic algorithm. Through the analysis of airflow contours and optimization procedure, results indicates that using two plates at the sidewalls of gap with optimized length and installation angle can reaches the maximum reduction of drag force and fuel consumption 20 and 10 % respectively.

Keywords: Fuel consumption, Emissions, Aerodynamic, CFD, Optimization (GA), Drag reduction

INTRODUCTION
In order to evaluate the vehicle aerodynamic performance, wind tunnel and finite element method (FEM) are utilized by manufactures. Wind tunnels are used to simulate air (fluid) flows over vehicles, which is in contact (friction) with the surrounding environment [1-4]. Given the high cost and required equipment for the wind tunnel, the alternative simulation method based on FEM, is applied to check the vehicles aerodynamics performance [5, 6].

As shown in figure (2) aerodynamic forces are includes: Drag, Lift, Lateral force, Rolling Moment, Pitching Moment, and Yawing Moment. These forces are effective in fuel economy, emissions, vehicle controllability and noise-vibration-harshness (NVH).
The drag force is the dominating resistance force, which acts on commercial vehicles and trucks in highway. Drag force at high speeds is one the main resistance force that increases fuel consumption significantly. Increasing speed from 55 mph to 65 mph for example increases drag by about 40 percent, resulting in a 10 to 15 percent increase in fuel consumption [7, 8]. Drag reduction techniques are mainly divided into two categories; Design optimal body shape in manufacturing process, which usually is in conflict with body structure and style parameters.

Heavy vehicles due to their large frontal area and bluff shapes are aerodynamically inefficient and take up to 65% of fuel to overcome drag. As mentioned by Hsu and Davis [9], it is estimated that with a drag reduction of about 40%, 10,000 USD/year/vehicle can be saved. Due to the high cost of development and required testing for any changes in sample model in the wind tunnel. So, before production original sample FEM is utilized to analyze the influence of aerodynamic parameters and finding optimal body shape. In the case of trailers and trucks, the cab shape has huge impact on the formation of airflow around the body and creation of vortices (figures 4 and 5). Therefore, proper design of the cabin can significantly affect the drag reduction. Previous studies [10, 11] investigated the effects of different types of roof deflectors, side deflectors and chassis fairings on vehicle aerodynamic improvements. Mazyan [10] analyzed the effect of applying drag reducing devices on a sedan, sports utility vehicle (SUV) and a tractor-trailer model to improve the fuel consumption of the vehicle. They used CFD to analyze the percent drag reduction due to the use of different drag reducing devices. Ortega et al [11] employed a full-scale wind tunnel to investigate the changes in the drag coefficient that arise from the installation of supplementary devices for class 8 heavy vehicles. They obtained a better understanding of how different devices affect the performance of other devices installed simultaneously. Bruneau et al. [12]. Singh [13] could reach drag reduction of up to 18 percent by implementation of base flaps in heavy and road vehicles. Håkansson and Lenngren [14] presented devices for Volvo FH trailer. Their results demonstrate that fuel Aerodynamic trailer devices have a great potential of reducing drag compared to the tractor. Also, they showed that Side skirts and Frame extension have a large potential to prevent turbulence and vortices in these regions.
Previous studies [7, 15] demonstrated that in commercial vehicles total reduction of drag coefficient results in 12% improvement in fuel economy. Average mileages of trailers over a year is about 10000 mile which with considering 35 l/100km fuel consumption rate, it consumes 56000 liter (12300 gallon) per year. By reducing the drag coefficient reduction, about 12% of fuel consumption reduces which equivalent 4000 pound for a year. Bese side that with reduction of drag force, vehicles emissions and NVH reduces significantly. Kassim and Filippone [16] used various aerodynamic retrofitting techniques to reduce heavy vehicle drag and fuel consumption. They numerically simulated realistic on-road operations to represent the effectiveness of these retrofits on various vehicle weights and driving cycles. Their results demonstrated that fuel economy improvement could be achieved from less than 1% to almost 9% an annual mileage. Englar [17] studied the effect of the gap between the tractor and trailer. He used a generic truck model for wind tunnel tests. Hyams et al., [18] investigated unsteady aerodynamic flows affecting the fuel economy of Class 8 trucks by numerical solutions of the unsteady Reynolds-averaged Navier–Stokes equations using a parallel implicit flow solver have been given to investigate unsteady aerodynamic flows affecting the fuel economy of Class 8 trucks. Comparison of their numerical results with experimental shows that with increasing yaw angle the accuracy decreases, whilst excellent agreement with experimental data was obtained for the 0° yaw angle while the 10° case had good agreement.

In this research a comprehensive CFD study are conducted to investigate the influences of supplementary parts on drag reduction of trucks. For this purpose geometry of main add-on parts are optimized by using genetic algorithm to reduce fuel consumption, emission and NVH. The results of the current study provide optimal supplementary parts usage for improvement of heavy vehicle aerodynamic characteristics.

2. Modeling and Simulation

In this paper, Volvo truck FH12 specification and dimension is considered for the modelling (figure 5). As well as the large dimensions of the complete trailer model, the governing equations will go up, which result in complication and time consuming of FEM. Due to the symmetry of the vehicle, half of the vehicle is modeled to reduce required time for procedure simulation (figure 6).

![Figure 5. complete vehicle model](image1)

![Figure 6. half-car model](image2)

In order to simulate the aerodynamic behavior vehicle, as shown in figure (7), CFD analysis of proposed model is carried out in virtual wind tunnel. Then boundary conditions are defined as figure (8). The boundary conditions of the trailer model in 1atm and 25°C and steady state are defined. Boundary condition for input air is considered only air velocity and pressure of output air intends to be zero. Also, surrounded wind tunnel walls are considered non-slip and trailer body proposed to be no friction surface. Finally, trailer meshed model is illustrated in figure (9).
OPTIMIZATION
In order to minimize the drag force with considering the shape and layout of add-on parts, a constrained optimization procedure are developed based on genetic algorithm. For this purpose, as shown in the figure (10) the length (L) and angle (θ) of sidewall (supplementary part) are considered as variables to minimize drag force whilst its layout and variables range are assumed as a constraint function.

With optimal geometry of added device in gap, the drag resistance force minimized by stabilizing the vortices depicted on figure (10). The procedure of a GA is composed by iteration of generation through the following six steps [19, 20]:

- Creating an initial population $P_0$,
- Evaluation of the performance of each individual $p_i$ of the population, by means of cost function,
- Selection of individuals and reproduction of a new population,
- Application of genetic operator, crossover for producing new generation,

Figure 7. Trailer model in virtual

Figure 8. boundary condition

Figure 9. Wind tunnel and trailer mesh model

Figure 10. Configuration and geometry of two plates installed on sidewall gap
- Application of genetic operator, mutation for prevention of local minimum area (enhancing global optimization)
- Looping of steps 2–5 to fulfillment of a criterion stop.

RESULTS
Due to that, the tests for trucks FH12 was carried out without the cargo in the wind tunnel, so for comparison the simulation results with experimental one, trailer body for FEM analysis is modeled without cargo. Simulation model is presented in figure (11) and air density and wind speed are considered 1.294 kg/m\(^3\) and 23.6 m/s.

![Figure 11. Pressure counter and air flow around FH12 model](image)

Simulation results in figure (11) presents drag force as 2672 N. In comparison with actual one (2300 N) in [21] it is 9% more, which is due to simplification of the model curves.

OPTIMAL STRUCTURE FOR DRAG REDUCTION
Front Fairings
As shown in figure (12) this device is installed on around of cargo compartment front surface. It deflects airflow and prevents flow separation, which causes reduction of drag force. Figure (13) illustrates pressure counter and airflow velocity around trailer.

![Figure 12. trailer model with front fairings](image)  ![Figure 13. pressure counter and airflow velocity around trailer with front fairings](image)
Efficiency of various add-on devices on drag reduction

These supplementary parts are added simultaneously on trailer. Simulation results for various configurations are presented in table 1.

### Table 1. Effects of various add-on devices on drag force

<table>
<thead>
<tr>
<th>Configuration description</th>
<th>Air velocity (m/s)</th>
<th>Air density (kg/m$^3$)</th>
<th>Drag force (N)</th>
<th>Drag reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic model</td>
<td>30</td>
<td>1.294</td>
<td>5215.6</td>
<td></td>
</tr>
<tr>
<td>One plate at center of gap</td>
<td>30</td>
<td>1.294</td>
<td>5201.2</td>
<td>0.27%</td>
</tr>
<tr>
<td>Two plates at center of gap</td>
<td>30</td>
<td>1.294</td>
<td>5198.3</td>
<td>0.33%</td>
</tr>
<tr>
<td>Front fairing</td>
<td>30</td>
<td>1.294</td>
<td>5207.8</td>
<td>0.15%</td>
</tr>
<tr>
<td>Two plates at sidewalls of gap</td>
<td>30</td>
<td>1.294</td>
<td>5179.3</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

It is fairing obvious that, installation of two plates at gap sidewalls provide the most efficiency between various configurations in drag reduction. In other words, the optimal device among studied add-on devices is two filler plates installed on the gap sidewalls between the cargo compartment and cab. Therefore, in the optimization procedure, its geometry optimizes by using GA.

**GEOMETRY OPTIMIZATION OF SUPPLEMENTARY PART**

In this section, the dimensions of the sideline piece mounted on the trailer (as a device which provide most impact on drag reduction) are optimized for enhancing minimum drag force. The main dimensions of the device are the angle and length of piece. So, the main objective of GA is determining the optimized value of its angle and length to reduce drag force. GA parameters are presented in table (2). Also, the optimization procedure for 50 iterations and the best selected next generations are illustrated in figure (14) and (15) respectively.

![Figure 14. solution convergence in GA iterations](image)

![Figure 15. Child generation for 20 initial population](image)

Table (2) presents the optimization results for 50 iterations and selected solutions are with various length and angles are determined for each case.
Table 2. Optimization results

<table>
<thead>
<tr>
<th>Angle (Degree)</th>
<th>Length (m)</th>
<th>Drag force (N)</th>
<th>Drag reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>5215.6</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>5179.3</td>
<td>0.07%</td>
</tr>
<tr>
<td>0</td>
<td>0.8</td>
<td>5171.2</td>
<td>0.86%</td>
</tr>
<tr>
<td>0</td>
<td>0.6</td>
<td>5174.6</td>
<td>0.78%</td>
</tr>
<tr>
<td>0</td>
<td>0.4</td>
<td>5189.6</td>
<td>0.5%</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>5175.9</td>
<td>0.76%</td>
</tr>
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Results demonstrates that GA with considering packaging and installations constraints determines the best optimal solution of device geometry. It demonstrates that the best angle and length are 10.52 degree and 0.74 m, which results in 0.88% drag reduction (force 45.8 N reduces). Figure (16) depicts the airflow and velocity counter around the trailer with optimized sidewall device mounted on the trailer.

CONCLUSION

Fuel consumption always is one of the key issues in the truck design, which significantly effects on emissions and costs. Therefore, the main objective of this paper is to design and optimization of the drag force reduction devices, which has main role in improving fuel efficiency. In this paper, trailer modeled and effects of supplementary parts for reduction of drag force investigated. For this purpose, at the first step, in order to verify the proposed model and simulation, enhanced results for basic model were compared by the experimental results in wind tunnel. Then main add-on devices effects on improving aerodynamic performance compared. Results indicated that the installation of two plates at gap sidewalls provide the most
efficiency in drag and fuel consumption reduction. Finally, to minimize the drag force, the geometry of plates at the sidewalls optimized by GA with considering the installation and packing constraints, which results in obtaining the optimal length and angle of installation. Results indicated that with installation the optimized plates at the side of gap between cabin and cargo compartment, drag force reduces about 20%, which, it can reduce fuel consumption about 4 to 10 % over a year.

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MUSEUM AND NEW ART REPRESENTATION IN THE MODERN AGE

Ehsan Shafagh Nioloee
Master of Science Student, Faculty of Architecture, International Jolfa Branch, Islamic Azad University, Tehran, Iran

ABSTRACT

Vital role of museums play a role in human societies, lasting and promoting cultural phenomena is the purest. Keeper of the few museums of the last generation memorials, in fact, is children's art and history. Each of these objects in the same language of the thousands of languages are spoken the documents, art culture, and history offered. In this paper, a new relationship between art and architecture show how they have been studying. Museums as a mirror for the promotion of intellectual and artistic progress and sustainable development of society act. The method described in this paper analytical and library studies and scientific literature review. Results in this study show new art museum to display the appropriate spaces when you can this powerful functionality highlight the arts show them the proper relationship between art and space are established. That is why architectural transformations, art museum greatly influenced by the dynamics of the new arts and devices used by their representation.

Keywords: museum, new art, architectural space

INTRODUCTION

The museum is the Greek word "museum Yun" means the House of Angels is inspired. In general, the museum refers to the collection of artifacts kept in place or mansion and put on display. Science museum and museology in the nineteenth century, concurrent with the development of concepts and classifications, enter a new phase of its development was now the objects on display, all traditional and industrial products in the fall. Museum as an emerging phenomenon in the art world and a variety of different roles and functions are responsible. Functions including exhibition, preservation, education and research can be outlined and the museums increasingly influential as a social institution and affecting various aspects of modern societies. In the twentieth century museum goes towards a new cultural space to become the kind of mentality. The only duty of protecting other museums collections and their restoration to display open to the public and the application of research to not spend. Museum, cultural center and hosts conferences, different views, libraries, galleries, educational centers, restaurants and drifts wide sales of books, graphics, container and diverse objects.

Looking Museum of Applied Arts, ethnological museum, open air museum, science museum, transportation, post, a variety of games, cheese, salt, straw and so on occur later this century (Karimi, 1995, p. 45). Museums, primarily in the architectural spaces in palaces and hotels and lies collectors were formed, starting this situation. The importance of education's function, their monuments such as the famous architectural design Shink, Van Keynes and Semper, Typology and special architecture and their new structure (Merlin and Choay, 2005, 570) with increasing number of museums, all of them concentrated in urban centers, there is no other possibility. The rapid expansion, upgrade technology, attention to natural areas and rural and expansion of tourism, decentralization of the museum and in this way to have revived movement and use change to create some of the monuments and museums on this matter has been effective. "The so-called museum, the place where the tank is a unique old books and objects and world ... and we can say that the intelligence scale museum and the wisdom and the guilds and Mer'at Salasel is perceived communication, unresolved problems can be resolved here and brought witnesses to the historical data "(Shirazii, 1992, 2).

Art that somehow expresses the artist's deepest perception experiments is in line with the changes of life and mental perceptions, new forms and new takes on. With these developments, the artwork needs are spaces that have been coordinated with the new arts and represent their dynamic nature. As a result, conventional
architectural spaces to display artwork can only highlight the impressive features of these arts that the proper relationship between artwork and display space they established. Because of changes in architecture, art museums greatly influenced by the dynamics of the new arts and ways of representation they are located. Many studies have been done so far about the new arts. The arts are divided into different categories and characteristics of each category are followed. On the other hand, art museums are also of interest and study architecture. However, there are few studies the relationship between the new arts and art museums in the way research is the result to help the design museum with features tailored to the arts. This article aims at emphasizing the analytical framework for understanding the relationship of new arts and place their views on the contemporary museum architecture should be considered.

THE NEED FOR RESEARCH
One of the foundations of classification is presentation on the art new space. On this basis, performance art, environmental art, conceptual art, video art, multimedia art and installation art of all kinds of art are, however, conceptual art, wider meaning of art is new and it encompasses. The necessity of a new art museums from the fact that the contemporary art with their own characteristics, part of the history of art form, and museums as cultural institutions supporting the arts in art history of the period and completion of the ring are at the forefront of artistic and other cultural institutions.

MUSEUMS
Museums in the past were known for their quality and breadth of their collections. In fact, rare objects and archaeological museums, cultural and artistic heritage we were the Iranian Revolutionary Guards. Today, the function of museums has changed considerably.

Museum with fascinating exhibitions and rebuilding and expanding their space and invest in the construction of large buildings, the people attracted to them. 1970s of mega-projects have been completed: the Centre Pompidou in Paris, the Guggenheim Museum in New York, eastern part of the National Gallery of Art in Washington, Louvre Pyramid, the Getty Museum in Los Angeles, the Synsbry National Gallery in London, the Guggenheim Museum in Bilbao, rebuilt a number of museums in Berlin and New Tate Museum in London. Tend to photography, video and environmental art and turn them into insights and sensibilities of today's most pervasive human transporter directly the phenomenon of open museums and facilities they have provided to show this type of work is associated.

![Figure 1: Outdoor spaces (a) and internal (b) Guggenheim Museum Bilbao, Frank Gehry effect, An example of a museum display space is centered.](image)

From the perspective of Michel Van Perreh, open to the public collections represent a political decision to reduce the gap between experts and non-experts in the field of scientific knowledge for economic reasons, social or ideological. "In France, open plan of Louvre Grand gallery was introduced in 1779. In 1783 in Munich, Germany Bavarian State Collection of signs, Governing Council was opened to the public and Offitsi
Museum opened in Italy in about 1780. In Vienna, the Austrian capital, Bloodreh Museum was open to all visitors, provided that their footwear is clean. According evil after the French Revolution, the Museum of the necessary institutional became public. Institutional throughout the continent of Europe more or less guaranteed the future "(Bali, 2004: 74). The French Revolution brought about the concept of the museum as a public institution. The institutional responsibility of the government to the country's heritage and responsibility towards the citizens of the museum was included. This concept has been crucial for the development of museums in the nineteenth century. Since the museum is a place that works and samples and other data related to the issues, activities and achievements in science, culture and technology on behalf of the community to gather and protect. A series of exhibition those with the necessary explanations and information and archives of scientific information using a variety of ways and professional and take advantage of them. In addition, the museum held a variety of scientific and educational programs to create and the dissemination of scientific thinking in society (hooper, 1994, 132). "I think cultural development as a social project was first discussed among experts in the world Museum and soon to be one of the areas in meetings and gatherings became International Council of Museums' (ibid: 77). In paragraph 27 of the UN Declaration of Human Rights also referred to the plan: "Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and in scientific advancement and its benefits are "(Declaration of Human Rights, 2007: 11). "In 1990, 59 percent of museums in the United States, 39 percent of museums in Great Britain, and 35 percent of private museums in Germany. In Italy, 29% of private museums of which 13% belonged to the Catholic Church. In the Netherlands, 66% of museums to foundations or associations and 12% belonged to the private sector. Even in France, according to conservative estimates, 45 percent are private museums "(Bali, 2004: 78).

Evolution museums in West Europe between 1960 and 2000 have been the same. In Germany, the number of thousand to more than 4 thousand, and in Great Britain and France from about a thousand to more than two thousand reached. In both cases, these official figures are much lower than the actual number of museums, which are believed to be about 3 or 4 thousand. In the Netherlands, the number of museums rose from 400 to 900. In the United States, in the same period the number of two thousand to almost 8 thousand museum is reached. According to a study conducted in the Netherlands, at the beginning of the twentieth century, museum of fine arts was as much as other types of museums. However, today only 20 percent Museum of art, is 80 percent other types of collections in the fall. In the meantime, due to Italy's cultural history - his art is an exception. Art museums in the country make up 31% of all museums very rich artistic and archaeological heritage are exhibited in the museum. On the other hand, the architecture of museums has become a symbol of modernity and postmodernity. Other museums traditionally not well managed and a network of specialized skills is formed in museums.

HISTORY OF THE EMERGENCE OF MUSEUMS

English language pronunciation Muse museum in Greece and the name of each of the nine goddesses of the arts is poetry and music in ancient Greece. Pagoda them, a forum for discussion and exchange of ideas among scientists and a place to preserve and display the jewels and valuables, Greek Mousseion called. Muse in English-Italian dictionary, etc. means eyes, thinking, reflection and hesitation is used, Museum, Museu, Museo, Musei, Museet, Muse and the like are described in European languages meaning of the word. High places gods of art, poetry and music that was located on a hill in Athens, the first museum in the history of the museum is named. Museum opening can be a museum "Alexandria of Egypt" that around 280 BC Ptolemy I founded noted. The museum continued for about seven centuries, at the Statue group of scientists, astronomical and surgical instruments and samples of natural products), such as ivory, leather and rare animal skin (to be shown to the people to reflect and training be made. In "Roman" masterpieces of art and valuable works in the palaces, temples and public buildings were kept, and often for the use and enjoyment were collected. In the Middle Ages, churches, rare art objects in order to fill their treasures, collected. Kings, rich and noble private collections gathered according to his power that most of them were the foundation of the future museum. Collect and display works of art organized is one of the innovations Renaissance culture. Great architectural symbols, display from the provision of arts, monuments supplementary Vatican and the "Bramante (Beramante)" in the early sixteenth century design. In the mid-sixteenth century, the word museum is influenced by cultural monuments during the "Hellenic Allexandria" became common. Renaissance museum building is probably the first example of "Como" (Como) for the year 1543 that the word Museum inscribed on its façade.
The museum first, in terms of form and space of the existing building typology was mimicking. Museum "Uffizi") in 1506 "harassment (Vasari)" in Florence, he as a government building was originally anticipated. However, in 1581 it was changed to accommodate the show works of performance art.

It has a wide range of spaces, which later became a model for the museum. Central courtyard surrounded by a portico, long rooms that were open (gallery) and the most important room called Tribune. A cylindrical space with a domed roof with a hole for lightening, reminiscent of ancient Temples, the walls was smothered in red. The color of the eighteenth century British painting exhibitions became common. Museum gallery collection of Renaissance style in about 1615 with the construction of the famous "Statue Arunkel of Earl" (that it plans to Inigo Jones is appointed) go to British.

In the seventeenth century Paris in 1626, saw the opening of the museum's "Natural History" and the UK, overseeing the opening of "Gallery Dulwich" (the "age Soane" which he designed). Museum Ashmolean in "Oxford" was founded in 1683, the first museum that works to accommodate the Orient. 1746 a turning point in the evolution of museums have known, because in that year the French author "La Fonte de Saint-Yenne" new ideas, thoughts and ideas about the museums said. Fundamentalist ideas that stimulates accelerated in museums and four years after London, in 1750 the world's first museum located in the Palace "Luxembourg" was set up. Museums such as "British Museum" in London in 1753 and "Louvre" in Paris of 1793 and the first museum in the Americas in the name of "Museum Charleston" Museum Petersburg Leningrad, Russia in 1764 the first museum in the world and Asia should be outlined. In the nineteenth century, the evolution of the past, while museums, other countries have acted to establish a museum, they were the vanguard of India. Museum has important characteristics of the variety of their topic.

THE OVERALL OBJECTIVES MUSEUMS
Some general goals for museums can be stated as follows:

1. View and transfer them to works of the past and the future.
2. Evaluation and comparison of historical phenomena, scientific, technical, industrial and artistic past
3. Create and strengthen understanding between nations
4. Understanding and display the peoples and nations of the world culture and civilization
5. upswing and improve the knowledge of students, students, researchers, seniors and other groups
6. attention and creating incentives in different fields of scientific research, cultural and artistic
7. avoid forgetting the local culture (Sadeghpour Firozabad et al., 2014, 41).

DEFINITION AND HISTORY OF MODERN ART
New art form of contemporary art is the artist using new media in an effort to find new concepts variety of topics. In this kind of art, the artist informed and unbiased imitation of the past have consciously accept new meanings and messages can be achieved in a new context. New Art As with any new phenomenon has some features that distinguish it from other arts. Artists work in this field with new ideas and different approaches of art benefit in fact, these artists share not the subject. Raw materials or working methods, but their interest and commitment to a more broad view of artistic creation and through this self-discovery is the result of interaction of these elements, personal environment, it made to manufacturer's mental and physical health, as well as artists they are unique (Smagola, 2002, 385). In the last decades of the twentieth century, in particular political circumstances, social and cultural attitudes and practices in relation to art, the art world saw the formation and the development of deep changes in the concept of art and the beauty of it. Such flows are known with the name of the new art is often followed by the younger generation.

THE RELATIONSHIP BETWEEN MODERN ART AND MUSEUM
One of the most important art museums is the museum typology. There are artists and art styles and periods with different methods and media, museums and audiences, artists and other attractive community,
informative, fun. With the rise and spread of modern art in the world, museums along with other cultural institutions affecting these flows, space and suitable for classification, presentation and storage provide new art. After understanding, the nature museum of modern art can be compared and examined the relationship between them. The relationship between modern art and the museum is a two-sided relationship. These two new phenomena that human beings are the result of human approaches them. In this regard, thereby museums are the objectives and topics are created. Viewing and maintenance of works of art, particularly ancient and classical art has always been one of the concerns of the curators. But with recent developments in the eighties new museums, especially museums that during the second half of the decade made and different approaches that are more technical and more specialized especially since museums are also actively involved in the field of modern art, it inevitably has to deal with new forms of museum. Size, application, shape and complexity of new museums are the most important characteristics. Taken together, these features result in classification results from the new museums. (Maria, 2003, 11)

**REPRESENTATION OF THE NEW ART IN MUSEUM**

New art features distinguish them from other arts. Artists who work in this field with a different outlook, will benefit from the new art. In fact, what these artists share not matter, materials or methods of work, but their interest and commitment to a broader vision of artistic creation and self-discovery (Smagola, 2002, 385). In the opinion of many critics Today, a variety of works of art that have been developed with funds from the artist's individual values, more than faith, shaken represent the views of their creator (Edmund Burke, 2009, 37).

One of the special attributes associated with the architecture in a variety of new art created by artists of the century, museum dry out and get out of the works of art in art galleries. Artists of this period, even beyond its art galleries have been introduced to the public and one of their goals to bring the arts into everyday life is new.

The location display, new arts can be divided into five general categories:

- **First category:** arts such as land art museum to display need not. The origin of this art, go on nature and get away from the trappings of human life and the people running it are generally easy access.

- **Second category:** arts such as art event their dependence on display at the museum is selectable. This close relationship is with art in everyday life and very quick and unexpected. Arts because the museum is not necessary run this special place.

- **Third category:** arts such as performance art, the art of placement and arrangement of the pieces needed to display video. Art of placement in close relationship with the museum is because for the finding, we need to have a neutral space. Executive art for display, they need to place the necessary criteria.

- **Fourth category:** Internet-oriented arts such as interactive art, digital art and art in a global network that can be accessed only in cyberspace. A variety of digital arts and the Internet to realize the need have a certain place and find meaning in cyberspace.

- **Fifth category:** arts such as video art, interactive art, and virtual reality, both in cyberspace and in the Museum are available. The arts can be exhibited in a place where there is the possibility of implementing them, virtual network or the Internet for viewers are available (Einifar, 2013 8- 7)

**THE NEW ART MUSEUM AND VIEW LOCATIONS**

Art that somehow expresses the most profound experiences of conceptual artist, in line with the changes life and human mental perceptions, new and fresh takes shape. In recent decades the arts as a new art and new art, abstract paintings and modern sculpture, digital arts and computer types are included that use new technologies, is on the new find. With these developments, works of art are in need of space coordinated with new art form and represent their dynamic nature. As a result, conventional architectural spaces to display artwork can only affect the ability of the arts to highlight that the proper relationship between artwork and display space they established. Because of changes in architecture, art museums greatly influenced by the dynamics of the new arts and ways of representation they are located. One of the challenges of contemporary
museums, deliver and maintain new works of art. New art in the second half of the twentieth century began to spread among young artists more popular among artists. The artists with an emphasis on new ideas, creativity and conceptualism works of art, offering a variety of approaches and wide use of the media, seeking relief from the shackles of modern art. New based on aversion Museum, Mira art common use of the ready-interference environment artist at work, audience participation in the creation of art and the use of new technologies is based. This art with its unique features, form part of the history of art and provide preservation and the same physical space of the museum or need. Museum of Modern Art Museums are important species, which provides a platform to display works of contemporary artists, and they challenged the beginning of new art museums to nature of these returns. According to these definitions, conventional inherent feature of the museum storage and presentation of objects and works while the works of new art museum than to escape, Art Mira, high dependence on the environment and actively participating audience as part of their orientation effect. This contrasts with fixed layout museum features collections, necessary logical connection between subject and sets, lighting, limitation of time and space to show works imbalance rise to the challenge and new art museum.

CONCLUSION
This article seeks to identify research challenges in dealing with works of modern art museums have been prepared. Factors affecting the implementation of the new art museum There are museums, including architectural features, the media, the audience works and the type of arrangement outlined. The need for common audience is at the presentation of new art museum and some species such as brick paperboard art. What is on offer, preservation and presentation of new works of art in museums is important. Museums and curators dealing with these works trying to identify the main challenges facing museums with works of modern art and try overcome them hanging this article. As the effect of the environment and location is important to the concept, as well as some works with the environment this new arts and important they are sometimes able to provide preferred locations artist museum space is not new. Research and study works of modern art, is effective in the clear up some ambiguities. This is despite research resources, experts and related ongoing relationship with artists and cultural institutions is possible.

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INVESTIGATING THE ROLE OF ORGANIZATIONAL STRUCTURE COMPONENTS AND ITS IMPACT ON LOGISTICS SERVICE INNOVATION
(CASE STUDY: CONSTRUCTION COMPANIES)

Mohammad Sadegh Hematyar Tabatabaie
Master Of Science Student, Department Of Management, Faculty Of Humanities, Kish Branch, Islamic Azad University, Tehran, Iran

Azam Rahimi Nik
Assistant Professor, Department Of Management, Faculty Of Humanities, Tehran Markaz Branch, Islamic Azad University, Tehran, Iran

ABSTRACT
Innovation is one of the components that enable the organization to gain the competitive advantage. Innovation in the field of logistics has considerable advantages for the companies. Advantages such as accelerating the process of procurement, reducing the cost of warehousing or transportation, on time procurement of goods or materials, requiring less manpower, increasing the safety and accuracy and so on that all have been achieved through continuous improvement of processes and logistics functions. The aim of this study was to investigate the factors influencing the improvement of logistics innovation in terms of organizational structure. In terms of purpose, this study is an applied one, where the descriptive-survey method with the type of correlation was used to collect the data. The most important data collection tool was a questionnaire that was codified based on the Likert spectrum. Research community included all experts and authorities related to logistics, warehousing and procurement in active construction companies in Tehran that among them, 197 people were randomly selected. The collected information was analyzed by regression method and path analysis. This study has been consisted of four hypotheses that these hypotheses explain the relationship among the various components of the organizational structure and logistics innovation. The results indicated that the third hypothesis is confirmed. Thus, the organizational structure, especially the lack of focus and specialization on effective logistics innovation were reported and only recognition had no significant effect on logistics innovation. Also Logistics innovation was recognized as one of the factors affecting market performance.

Keywords: Logistics Innovation, Organizational Structure, Market performance, Construction companies

INTRODUCTION
Innovation, one of the most valuable assets of the organization, is a factor that enables organization by riding on the waves of change to surpass from its competitors. Kanter(1995) in his definition of innovation, has emphasized to the process of it and claims that innovation means process of gathering any new and useful ideas to resolve an issue and he believes that innovation, includes the formation of ideas, and is adoption and implementation of new ideas in processes, products and services. Williams (2001) argues that innovation is a factor that creates opportunities by individuals for themselves or for an organization where they work, regardless to the resources that are in their control. Innovation in organizations has various forms that generally are raised in the form of product innovation, service innovation, process innovation and market innovation. One of the innovations in the organizations that has recently taken in to consideration is innovation of logistics services. Logistics service innovation
refers to the use of any idea, procedure, process or function in logistical operations of an organization. (Grawe and et al, 2009). Logistics means the management of the flow of goods or any other sources from the point of production or inventory location to the point of consumption. Logistics is commonly includes activities such as inventory management, transportation, warehousing, distribution of materials and products, displacement and maintaining the security of raw materials and prefabricated goods (Daugherty and et al, 2011). Intensity and competitive pressure which today is enter to the most of the industries, has caused companies to look for new ways to improve their logistics functions. Innovation in the field of logistics has had considerable advantages for the companies. Advantages such as accelerating the process of procurement, reducing the cost of warehousing or transportation, on time procurement of goods or materials, requiring less manpower, increasing security and accuracy, etc., which are all achieved by the continuous improvement of processes and logistics functions. These measures have been directly effective in improvement of profitability, reduction of production costs and improvement of the quality of the final product (Olson and et al 2005, Wagenr 2008, Daugherty and et al 2011). Although there is general agreement on the benefits of innovation development in all organizational areas, but the question that arises is that how innovation can be improved, particularly in the field of logistics services?

Numerous studies have been carried out about effective factors on innovation. In most of these studies, product innovation or process innovation is considered and logistics service innovation has been less investigated. However one of the main variables that from the perspective of some researchers (Daugherty et al., 2011; Bergfors and Larsson, 2009), has a positive impact on the improvement of logistics innovation is organizational structure, because the logistics operation, improves through higher flexibility and flexibility is greatly influenced by the organizational structure. From the perspective of these researchers, the organizational structure is effective on arrangement, work processes and usage of resources, so through this, it increases the capabilities of logistics service innovation. Also the organizational structure has influence on the discretion and the ability of individuals for making decisions and collaborating with each other, and through this, can be effective on the improvement of flexibility and individual competencies in the area of innovation (Daugherty et al., 2011). However, it still has not been raised a comprehensive approach in this regard, especially in the country that the subject of innovation has not been completely addressed, and we have seen inadequate attention to issues of logistics and innovation, whether by companies or by researchers and experts. In this study, it will be discussed that "whether the components of the organizational structure can be effective in improving the logistics service innovation?"

LOGISTICS SERVICE INNOVATION
Researchers define the organizational innovation as a revolutionary and evolutionary process that leads to a change in the organization. This change can occur in any of different components, including: policies, services, processes, systems, tools and products. The Researchers, know the logistics innovation as a process that through this, firms start to evaluate that what is valuable for customers, and then try to commit for learning these items (Flint and et al 2008). In other words, logistics innovation, is efforts of logistics-related units in line with the improvement of the components which are valuable for customers. The most important components of the logistics innovation in this definition are:

✓ The management of Learning in the field of supply chain
✓ Identifying that what is valuable for the customer
✓ Encouraging employees toward improvement of valuable components from the customer's perspective

Also it has been acknowledged that customers in this definition may be the other organizational units, for example, production unit, can be considered as customer of logistics unit. Researchers state that the innovation of logistics is the combination of different sources in the supply chain that will lead to higher levels of performance. The combination of sources includes primary sources, suppliers, purchased
materials, arrangement and storage of cargo in the warehouses etc. In this study, Daugherty and et al model (2011) has been used to evaluate logistics service innovation that its components were:

- Acceptance of innovation: Accepting innovation by managers and employees as a value and promoting it
- Senior management attention: Financial support and rewards and attention of management to the development of innovation
- Continuous improvement: Implementing mechanisms in order to improve processes and logistics procedures
- Variation and development of processes: Get ideas and creativities and convert them to new procedures and the development of logistics processes

**ORGANIZATIONAL STRUCTURE**

The organizational structure is called to the framework of relations that governs systems and organizational processes in a way that reflects the makeup of the components of an organization and determines the communication channels between the organizational components. By organizational structure, activities and organizational procedures will be organize and information flows will be regulate and it will be clear that Who is accountable to whom and who is responsible for special tasks (Hunter 2002). The organizational structure also represents the formal mechanisms of coordination and introduces organizational interaction patterns (Chatzaglu and et al 2011). In general, the organizational structure plays three basic functions in organizations that are: (De Marco and et al 2014)

- Separation of departments and units of the organization
- Distribution of functions among people

Coordination between organizational units

Daft (1379) believes that the dimensions of the organization are classified into two parts: structural and content. Structural dimensions express the internal features of an organization. They give basis that can measure and compare the organizations with each other. The content dimensions introduce the position of the organization and affect the structural dimensions. The dimensions of the organization have bilateral relationship with each other, and to reach the goals, adapt themselves to others. Generally the most important components of the structure are as follows:

1. **Official**: It refers to the documentation that exists in the organization. In these documents, procedures, job descriptions, regulations, and policies that organizations must abide by and implement have written.

2. **Specialty**: That is, to what extent or to what degree the works of the organization and its activities are divided into separate tasks.

3. **Having standard**: The case that refers to the many of the same tasks that are done in a unified way.

4. **Hierarchy of authority**: It means specifying the subject that each of the individuals to whom should give their work report. It also specifies the scope of control of any of the managers.

5. **Complexity**: It means the number of the works or the sub-systems that are done within an organization.

6. **Being concentrated**: In the hierarchy of authority, being concentrated is called on the level of authority that has decision-making power. When decisions are delegated to lower levels of the organization, it means that the organization is decentralized.
• Personnel ratios: This ratio represents the application of people that for different tasks and various departments are hired in the organization. To calculate this ratio the number of employees or the number of groups of employees or the number of classes of employees are divided by the total number.

• being professional: Refers to the level of formal education and training of the employees. If employees in an organization need training to get a job in the long term, they say, that it is a highly professional organization (Kasraie and Alirahimie 1388).

One of the most common classifications of the components of the organizational structure is the classification of the Daugherty and et al (2011) that explains the components of the organizational structure as follows and this classification is used in this research:

• Decentralization: Refers to making decisions and delegation of authority in a wide range of organization and managers of different departments so that most decisions are not taken at the top.

• Recognition: Means the adoption of the laws and documented procedures of the organization in carrying out the activities and organizational measures.

• Specialization: Means using elite forces and specialists and for different positions in the organization focus on the expertise and avoiding from biased and selectively criteria.

• Complexity: Means the number of levels, the hierarchy of the organization, the organizational departments and the separation of units.

**STRUCTURAL IMPACT ON INNOVATION**

All organizations need exquisite and fresh comments and new ideas to be survive. New thoughts and ideas, like a soul in the body get blown and save the organization from destruction and annihilation. In our time, for being survive and for progressing and even for maintaining the status quo, the flow of renovation and innovation should be continued in the organization, to prevent it from stagnation and destruction. To continue the life in the turbulent and variable world, we must turn in to the creativity and innovation and the time that we are recognizing the changes and developments of the environment, we must prepare new responses to deal with them and with the influence of these changes, affect them and give them the desired shape (Marahmatie 1392). To create and encourage creativity in organizations as well as helping to foster the creative abilities of individuals in organizations, structural, humanitarian and cultural variables are effective (Zaki 2001). In research carried out by the Birus and and the Dilbeck (1997) demonstrated that the organizational structure impacts on the organizational innovation. They have stated that the flexible structure not only leads to the development in the use of new ideas but also the innovation of these structures is much more than the innovation of the inflexible and rigid structures. Diel (1986) believes that the creation of creative and innovative environment is perhaps the most important factor in ensuring the survival of the organization to provide new and untapped ideas (Robinson 2011). Hashyld (1980) in his study has cited six important features for creative organizations: Freedom in expressing new ideas, flat organizational structure, information management, being aware from the contradictions, the needs of recruitment, competency and responsibility. He believes that only organizations with the above properties will be able to optimize the creative process and, therefore, will be successful in that field and only these organizations have appropriate structure to ensure their quite comprehensive creativity process (Peter, 2004). In general, the organizational structure states as one of the basic variables that can affect the level of creativity and innovation. From another point of view, the organization which tries to become an innovative organization must bring the following components in itself and in the absence of any of the following components the organizational innovation process may disrupt or face with difficulties. These components are (Marahmatie, 1392):

• Common vision of management and employees toward innovation
• Widespread communication
• Suitable structure and the proportion between the organic and the mechanical sections of the structure
• High participation in innovation
• The people who can facilitate the innovation
• External focus (paying attention to the customer)
• Effective teamwork
• Creative atmosphere
• Development and continuity of individual progress
• learned organization

Although the organizational structure has been introduced as one of the factors affecting innovation but in most studies, yet, it is not clear that what is the proper structure for innovation improvement. Particularly the effect of direct components of organizational structure is not taken in to consideration on the improvement or decline of innovation. Accordingly, the hypotheses of this research, in order to investigate the role of triple components of organizational structure on logistics innovation are raised:

• Decentralization is significantly effective on improving the logistics service innovation
• Recognition is significantly effective on improving the logistics service innovation
• Specialization is significantly effective on improving the logistics service innovation.
• Logistics services innovation is significantly effective on improving the market performance

RESEARCH METHODOLOGY
In terms of purpose, this study is an applied one because its results are used directly in construction companies. Also the descriptive-survey method was used for this research. The Method of data collection was practical and the library one. The library method is used to extract and collect the basic information especially in the codification of the questionnaire. After codifying the questionnaire, the second method was used for gathering the basic information. The statistical population was: Experts and officials of the sections that were related to the logistics, warehousing and procurement in active construction companies in Tehran, 200 people were randomly selected and the required data were collected through questionnaires. The questionnaire was consisted of seven points Likert-type to directly investigate the hypotheses. In the following table the resources and the components related to each variable and Cronbach's alpha is observed:

Table 1: Variables, components and resources used in developing the questionnaire

<table>
<thead>
<tr>
<th>Resource</th>
<th>Cronbach's alpha</th>
<th>Component</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daugherty and et al (2011)</td>
<td>0.845</td>
<td>Decentralization</td>
<td>Organizational Structure</td>
</tr>
<tr>
<td></td>
<td>0.769</td>
<td>Recognition</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.820</td>
<td>Specialization</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.798</td>
<td></td>
<td>Logistics Innovation</td>
</tr>
</tbody>
</table>
Cronbach's alpha coefficient values higher than 7/0 for all cases and this indicates the final approval of the evaluated items.

**DATA ANALYSIS**

First of all, to investigate the normality of distribution of data variables, Smirnov-Kolmogorov test was used. The purpose of it was to investigate the claim made regarding the normal distribution of data related to a quantitative variable that is one of the prerequisites of regression testing.

**Table 2: Kolmogorov-Smirnov**

<table>
<thead>
<tr>
<th>Logistics innovation</th>
<th>Market performance</th>
<th>Decentralization</th>
<th>Recognition</th>
<th>Specialization</th>
<th>Average KS statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2177</td>
<td>4.1134</td>
<td>4.1104</td>
<td>4.2183</td>
<td>4.0629</td>
<td></td>
</tr>
<tr>
<td>.775</td>
<td>1.192</td>
<td>1.066</td>
<td>1.198</td>
<td>1.207</td>
<td></td>
</tr>
<tr>
<td>.586</td>
<td>.116</td>
<td>.206</td>
<td>.114</td>
<td>.108</td>
<td></td>
</tr>
</tbody>
</table>

The results show that the data distribution is normal on all items, because according to the results, the significance level of Sig for all of the variables is more than the significance level of 0.05. So with 95% confidence the H0 hypothesis is not rejected and the distribution of the data is normal. Also the statistic value of Z is smaller than the values in the table so this emphasizes to the normality of the data. Normality of the data tells us that in order to assess hypotheses, parametric tests should be used. So in order to measure the correlation, Pearson correlation index is used.

**Table 3: Investigating the correlation Test**

<table>
<thead>
<tr>
<th>Degrees of freedom</th>
<th>The coefficient of determination</th>
<th>sig</th>
<th>Pearson coefficient</th>
<th>Number</th>
<th>The dependent variable</th>
<th>The independent variable</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>196</td>
<td>0/25</td>
<td>.000</td>
<td>508**</td>
<td>197</td>
<td>Logistics service innovation</td>
<td>Decentralization</td>
<td>1</td>
</tr>
<tr>
<td>196</td>
<td>0324</td>
<td>071</td>
<td>197</td>
<td>Logistics service innovation</td>
<td>Recognition</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>196</td>
<td>0/11</td>
<td>.000</td>
<td>337**</td>
<td>197</td>
<td>Logistics service innovation</td>
<td>Specialization</td>
<td>3</td>
</tr>
<tr>
<td>196</td>
<td>0/07</td>
<td>.000</td>
<td>.282**</td>
<td>197</td>
<td>Market performance</td>
<td>Logistics service innovation</td>
<td>4</td>
</tr>
</tbody>
</table>
The results show that there is a significant and positive relationship between "decentralization" and "logistics innovation". Pearson correlation coefficient is equal to 0.580 that indicates the strong relationship which at level of 99 percent is significant because the level of sig is reported less than 0.05/0. So the first correlational relationship of the research is approved. In the following, the result of the first hypothesis by the use of regression test will be discussed. In the second equation, the results show that there is no significant relationship between "Recognition" and "logistics innovation". Pearson correlation coefficient is equal to 0.710, which indicates that the type of relationship is very weak, which in level of 95 percent, is not significant because the level of sig is reported more than 0.05/0. So the first correlational relationship of the research is not approved and certainly can be said that the second hypothesis is rejected. About the third hypothesis, the results show that there is a significant and positive relationship among "specialization" and "logistics innovation". The same thing is true about the fourth equation and the correlational relationship is accepted. In the next step it becomes clear that which of these relationships are approved.

REGRESSION TEST AND DETERMINING THE NON-LINEAR EQUATION FOR THE FIRST HYPOTHESIS

In order to find the regression equation, first you have to recognize which state of non-linear equation or linear equation is the most appropriate one to determine the equation. This is done with the help of ANOVA test.

Table 4: ANOVA test, the first hypothesis and calculation of the coefficients

<table>
<thead>
<tr>
<th>Equation</th>
<th>Summary of the model</th>
<th>Calculation of the coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R Square</td>
<td>F</td>
</tr>
<tr>
<td>Linear equation</td>
<td>.258</td>
<td>67.560</td>
</tr>
<tr>
<td>Logarithm equation</td>
<td>.267</td>
<td>70.737</td>
</tr>
<tr>
<td>Reverse equation</td>
<td>.262</td>
<td>68.739</td>
</tr>
<tr>
<td>Quadratic equation</td>
<td>.268</td>
<td>35.397</td>
</tr>
<tr>
<td>The Grade 3 equation</td>
<td>.269</td>
<td>23.504</td>
</tr>
<tr>
<td>Compound power equation</td>
<td>.264</td>
<td>69.624</td>
</tr>
<tr>
<td>S curve growth equation</td>
<td>.277</td>
<td>74.348</td>
</tr>
<tr>
<td>Exponential logistic equation</td>
<td>.264</td>
<td>69.624</td>
</tr>
<tr>
<td>Logistic growth equation</td>
<td>.264</td>
<td>69.624</td>
</tr>
</tbody>
</table>

F with the significant amount of Sig = .000 is highly significant in all cases and the hypothesis of the equation is established. Then, quantities of F for different equations are compared. As it can be seen, the amount of F for the equation of power is more than other cases. So in this case, the equation of power may be the best mode. According to the right half of the table, constant coefficient is equivalent to 494/2 and variable coefficient is equivalent to 369/0, thus, the non-linear equation of power can be provided as follows:
\[ \ln y = \ln \frac{2}{494} + 0.369 \ln x \]

\[ \ln x \] is the natural logarithm of X. According to the above non-linear equation we can say that the decentralization is effective on logistics innovation. Therefore the first research hypothesis is confirmed.

In the following figure, the histogram on the relationship between these two variables is visible:

![Figure 1: Power regression equations in the first hypothesis](image)

This graph shows that when the centralization reduces, at the same time the innovation improves on a smaller scale.

**REGRESSION TEST AND DETERMINING THE NON-LINEAR EQUATION FOR THE THIRD HYPOTHESIS**

About the test of the third hypothesis, the amount of F with the high significant level \( \text{Sig} = .000 \) is highly significant in all cases and the hypothesis of the equation is established. Then, the quantities of F for different equations are compared. As it can be seen, the amount of F for the equation of power is more than other cases. So in this case, the equation of power may be the best mode.

**Table 5: ANOVA test, the third Hypothesis and calculation of the coefficients**

<table>
<thead>
<tr>
<th>Equation</th>
<th>R Square</th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
<th>Constant coefficient</th>
<th>b1</th>
<th>b2</th>
<th>B3</th>
</tr>
</thead>
</table>

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According to the right half of the table, the constant coefficient is equivalent to 2/897 and the variable coefficient is equivalent to 0/263, thus, the non-linear equation of power can be provided as follows:

$$\ln y = \ln \frac{2}{897} + \frac{0}{263} \ln x$$

$$\ln x$$ is the natural logarithm of X. According to the above non-linear equation we can say that the Specialization is effective on logistics innovation and the third research hypothesis is confirmed. In the following figure, the histogram on the relationship between these two variables is visible:

**Figure 2:** Power regression equations in the third hypothesis

REGRESSION TEST AND DETERMINING THE NON-LINEAR EQUATION FOR THE FOURTH HYPOTHESIS

About the test of the fourth hypothesis, the amount of F with the high significant level $$\text{Sig} = .000$$ is highly significant in all cases and the hypothesis of the equation is established. Then, the quantities of F for different equations are compared. As it can be seen, the amount of F for the logarithm equation is more than other cases. So in this case, the logarithm equation may be the best mode.
Table 6: ANOVA analysis, the fourth Hypothesis and the calculation of the coefficients

<table>
<thead>
<tr>
<th>Equation</th>
<th>Summary of the model</th>
<th>Calculation of the coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R Square</td>
<td>F</td>
</tr>
<tr>
<td>Linear equation</td>
<td>.080</td>
<td>16.787</td>
</tr>
<tr>
<td>Logarithm equation</td>
<td>.082</td>
<td>17.233</td>
</tr>
<tr>
<td>Reverse</td>
<td>.082</td>
<td>17.220</td>
</tr>
<tr>
<td>Quadratic</td>
<td>.082</td>
<td>8.625</td>
</tr>
<tr>
<td>Grade 3</td>
<td>.082</td>
<td>8.625</td>
</tr>
<tr>
<td>Compound power</td>
<td>.074</td>
<td>15.610</td>
</tr>
<tr>
<td>S curve</td>
<td>.075</td>
<td>15.757</td>
</tr>
<tr>
<td>Growth</td>
<td>.072</td>
<td>15.059</td>
</tr>
<tr>
<td>Exponential</td>
<td>.072</td>
<td>15.059</td>
</tr>
<tr>
<td>Logistics</td>
<td>.072</td>
<td>15.059</td>
</tr>
</tbody>
</table>

According to the right half of the table, the constant coefficient is equivalent to 2/234 and the variable coefficient is equivalent to 1/323, thus, the non-linear logarithm equation can be provided as follows:

\[ y = \frac{2}{234} + \frac{1}{323} \ln x \]

Ln x is the natural logarithm of X. According to the above non-linear equation we can say that the logistics innovation is effective on market performance and the fourth research hypothesis is confirmed. In the following figure, the histogram on the relationship between these two variables is visible:
RESULTS
This study has been consisted of four hypotheses that these hypotheses explain the relationship between the components of the organizational structure with the logistics innovation and market performance. After gathering the information and checking the hypotheses, it was found that 3 hypotheses are confirmed and of course, one hypothesis rejects. The results show that the decentralization is strongly and in a meaningful form effective on the improvement of the logistics innovation. It seems that the delegation of authority to the employees and their involvement in making decisions can lead to the development of creativity and ideas. In general, the centralization refers to the levels of the organization and decision-making center. The Centralized organizations make most of their decisions through hierarchy of command and in decentralized organization the decisions are made with the participation of subordinates. The results showed that the situation of the logistics innovation is potentially better in decentralized organizations. In the case of reason it can be stated that the amount of communication, participation in job and satisfaction is higher in decentralized companies and these factors increase the level of creativity and efficiency. Also the results show that the recognition rate is not effective on the innovation of logistics. The relationship between these two variables is very weak and insignificant. Recognition is referred to the necessity and the use of regulations, procedures, instructions and duties that they specify the framework, duties and the responsibilities of the staff. There are two points of view regarding the recognition, at the first one, the recognition only contains the written official rules and regulations, and in the second view, the rules and customary principles are added in to the definition of recognition. Although most of the studies indicate that the recognition undermines the innovation and reduces the communication within the organization but in this study, recognition was known as a neutral and ineffective variable. In fact, it seems that in these organizations, the presence or absence of rules and procedures and their extension had not any role in the improvement or lack of improvement of the innovation. In addition, the results show that specialization is effective on the improvement of logistics innovation. Specialization Means using the professional and elite forces and the centrality of specialization for the appointments of positions and avoiding from the biased and selective criteria. It seems that when the specialized and experienced personnel are employed in positions related to logistics, the level of logistics innovation improves. In general, it is natural that innovation occurs more by professionals and skilled personnel. The reason for this is that these people have higher recognition from the job components and better know the dimensions of their work. Thus they can better improve these components.

Figure 3: Power regression equations in the fourth hypothesis

This graph shows that the improvement of logistics innovation causes rapid improvement for market performance.
Based on the research findings, Logistics innovation is also effective on the improvement of the performance of the enterprise market. In fact, efforts to improve logistics innovation directly lead to improvement of the performance of organizations in the field of marketing. Innovation is very important in using the competitive benefits, especially in large organizations, because the organizations will be deleted from the competition arena without continuous innovation. Currently, more than half of the profits of non-governmental organizations, especially in the advanced technology industries and organizations, as the information and communication technology industry, are obtained from the products and services that are less than five years old. Furthermore, Innovation has increased in different sectors of trade and services and the companies are trying to maintain their competitive advantages in this environment. Therefore, innovation is very important for competitiveness in the fields of trade and services. From another perspective, coordination and adoption of organizations with the complex environment that has surrounded them is vital and inevitable. The essential condition of this important work is innovation and all organizations for survival, need innovative and new ideas. New ideas are blown like a spirit in the body of the organization and will save it from annihilation and destruction. Organizational innovation almost includes the critical aspects of the organization, mechanisms, processes, activities and micro and macro aspects of the organization. In a world that is rapidly changing, inertia and lack of innovation for organizations bring nothing except failure; therefore, organizations in this area should create the necessary conditions.

**SUGGESTIONS**

In order to improve logistics innovation, decentralization should be considered as the main solution. In fact, the most important component of the organizational structure that is effective on the improvement of innovation is decentralization. In this regard, it is suggested that:

- Employees must have greater freedom to carry out their activities and pursue their business processes.
- Working programs must be flexible and rotatable and changeable and providing the strict and inflexible working programs should be avoided.
- Empowering the employees and delegating more authority to them

Specialization also was discussed as one of the effective variables on the improvement of the logistics innovation. On this basis, it is suggested that:

- The logistics personnel must be selected from the experienced and graduated people of this field and the personnel of the other units should not be used in this field.
- Staff must continuously be encouraged for the improvement of their abilities and job-related skills.
- Staff must be employed only in their specialized fields
- Job skills must be considered as a determining factor in selecting people for positions related to the logistics.

The most important conclusion of the study is emphasizing the positive role of the logistics innovation on the improvement of the market performance. So it is necessary to provide recommendations for improving the logistics innovation:

- Development programs related to the logistics innovation must be implemented in the organizations and the components of the logistics innovation must receive serious attention from the managers.
- Encouraging employees to provide and develop ways in order to provide new services in the field of the logistics especially the projects which lead to customer satisfaction.
✓ Development of programs in order to improve the methods of providing raw materials for the new products.
✓ Development of methods and the warehouse processes related to the material supply.
✓ Encouraging the employees of the logistics unit to creativity and innovation.
✓ Annual development of the plans and new ideas in the field of storage and providing the raw materials.
VISUAL MOTIFS OF AMAMZADHHAY THE CITY OF DAMAVAND IN TEHRAN BASED ON THEMATIC DIVISION. CASE STUDY: AMAMZADGAN ABDOLAH AND OBAIDOLAH (AS)

Atieh Youzbashi
Master of Visual Communication, Faculty of Arts, Shahed University, Tehran, Iran
Email: Atiehyouzbashi@yahoo.com

Parviz Eghbali
Assistant Professor of Faculty of Art, Shahed University, Tehran city, Iran
Email: eghbali@shahed.ac.ir

ABSTRACT
Arts used in the Holy is one of the most striking aspects of Islamic culture and spiritual atmosphere in illustrative display. The method of research is based on descriptive and analytical nature and methods of data collection is used in combination (library and field). The study population is 39 Shrine scope of Awqaf administered city of Damavand in Tehran province. In the form of non-random sampling (optional) and 4 samples of the designs Amamzadgan Abdolah and Obaidolah (as) Damavand and analysis of information is qualitative and quantitative. In this study, we examined the basic Articles of motifs Then, for example Shrine of Amamzadgan Abdolah and Obaidolah (AS) was introduced and designs and other features are given in the table and 4 motifs was analyzed in symbolism. Distribution of relief are presented on the basis of division within Amamzadhay of this city in tables and graphs. Discover the meaning of the motifs is necessary and requires a deep study about it. Due to the symbolism and motifs continuity during different historical periods was of the features and Islamic Iranian art forever. This paper attempts to Consider the characteristic image motifs, designs and examine the roots of the ideological and symbolic meanings. The results of this study show that the plant designs is the highest motifs in frequency distribution tables and charts in Amamzadhhay city of Damavand.

Keywords: visual motifs, Shrine, a symbol, a city of Damavand, Imamzadeh Abdullah and Obeydullah (AS)

INTRODUCTION
In Islamic lands and holy places revered by the people, always had been room for growth and talent of artists and geniuses a Muslim. "Among the different branches of architecture, mausoleum buildings hold a special place, So that the texture and were rooted Iranian culture and the mosques, the most common type of public building in Iran." (Neiestani and Lyny, 1392: 48) Religious centers such as the holy shrines are unique treasures of Islamic art. Iranian art is rich in symbols And in the creation of art works, technical skills with a deep faith are very effective, And addressing broad concepts in forms that have long had a place in Iranian art. Emamzadeh motifs are place of manifestation thought, taste, art and people's feelings. In dealing with images and motifs was sentient and knew very well symbolic meaning of the relationship between form and function. Never being merely decorative motifs and concepts were special. And in some cases also the motifs means mysticism profound and deep convictions stemming from mysticism. You can rely on their traditional values and national culture and identity then created works that show Iranian’s image and identity. It is necessary to do an insight analysis into the fundamental foundation of Islamic art in Iran that is very beautiful and detailed. The idea of perfectionism of Muslim artists that stems from Islamic teachings, is an important part of survival Islamic Art. Artist seeker Allah knows all the beautiful nature as a reflection of Allah beauty. Thus, attempts to reflect the effects of it on their own artifacts. This way of thinking such as mold and the most common mental invisible links all branches of Islamic art. The artist knows every
plan and motifs as a means to worship and inner peace. That's why by watching their work, spiritual peace is created in the spirit of the viewer. Religious buildings and shrines in various Islamic periods, has always been a breeding ground for emerging talent and creativity of Muslim artists. The architecture and decoration of its affiliate, the Islamic art became one of the main place of manifestation. And decorative motifs of Islamic art in the hands of craftsmen, was transformed as the element of expression and sincere devotion to the dead owner of the building. (Khakbaz Alvandyan and Sciences, 1391: 46). Valuation criteria in man’s mind are the concept of building standards criteria and construction concepts. Countless facts and events that are beyond human understanding leads people to express ideas and concepts that are difficult to understand and verbal descriptions, invent various systems of symbols. Amamzadghay article the importance and necessity of imagine motifs in city of Damavand Tehran Province to provide a general classification is convenient and practical. The use of semiotics science describe and interpret the imagine motifs of the novelty of this study is the most innovative technologies in the research, collect imagine motifs in religious places (Emamzadeh) in the city that hasn’t be done.

RESEARCH METHODOLOGY
The research method is analytical, at first, photography was done all the motifs Amamzadghay city of Damavand (39 e) by the method of field. Then all motifs of each the Emamzadehwas mentioned separately in the table and type of motifs based on the division motifs and other features. Distribution results of motifs are presented in tables and charts. Then, based on of semiotics science 4 choice motifs was examined in Amamzadgan Abdullah and Obeydollah (AS) in Damavand. Data collection tools is: observation, camera (photography and videography) and scanning site, taking notes (books, articles, theses, reports), method of data collection: a combination (library, field and internet) and data analysis quantitative (statistical) and qualitative (reason, logic and reasoning). Iranian architecture, both from the Islamic period as well before have index values that are stable, most notably, the relationship between art and spiritual traditions taken from the art. The evolution of Iran's artwork, often is formed in the context of the evolution of internal conceptual artists. This feature is ideal for artists to prefer reality on simplicity and summary writing have preferred to naturalism, even in the oldest architectural monuments that have left Inscriptions. There are decoration principles in Emamzadeh architecture that are purely Islamic and have been emerged in form of the arabesque and curves, geometrical and girih tiles, motifs inscriptions and pictographs. Types of motifs are numerous, because any archaeological search led to the discovery of a new set of motifs. Thus, Iran would study the motifs of the classification. Great scholars such as Arthur Pope during archaeological research in the book of "An Intension in Irani" and R.W Ferreira in the book "The Art of Iran", Zaki Mohammad Hasan in his book "The Art of the Islamic era" and Drek Hill and Oleg Grabar in the book "Islamic architectural decorations", to classify motifs, Most of the four main groups that are related to the subject of this study According the same thing in the present study, Types of motifs used in Emamzadeh will explain in terms of imagine in four categories and each individually. But human motifs not used because the Emamzadeh is not mentioned in the table and motifs pictographs added to this classification.

HISTORY RESEARCH
In connection with architectural motifs in Damavand city Amamzadghay little research has been done. The following studies have been done on decorative motifs:

1. Purmand, H. (1385), "geometry, Islamic architecture and decorative motifs (scroll Tvpqayy)", the magazine Art Monthly, 91 and 92, pp. 20-24. Topkapi scroll is a set of paintings for brickwork and tiles as well as design and MogharnasRsmybndy, and an extensive discussion on the historical and theoretical geometry and architecture's role and decorations. Topkapi scroll set of paintings for brickwork and tiles as well as design and traditional, Formal, and an extensive discussion on the historical and theoretical geometry and architecture's role and decorations.
2. Sarikhani, Majid; Sharifinia, Akbar and Ahmed, A. (1394), "Analysis of Iranian-Islamic motifs Gchbryhay Shrine Abdullah (AS) Arak", the history of Islamic culture and civilization, 18, pp 155-176This paper marks the foundation of the decorative motifs, influenced by the Sassanid era stucco and content sources as it is influenced by the teachings of the divine and important social events, Four changed human and animal motifs and therefore, tends to be abstract and taking a look at the mythology of their plant designs, the use of geometric designs and delivers inscription can be seen in the context of the shrine stucco motifs.

3. Saeedi, S. (1380), "an expression of the Islamic geometric patterns - Iran". Master thesis, Islamic Azad University of Tehran. visualrelationship goal of this thesis is cultural and artistic community awareness today of the traditional arts, especially geometric patterns rooted in the culture, religion and beliefs of past periods. And in comparison with other arts is neglected in defining and understanding. It hope that by understanding the content and meaning, the real values give it more prosperous. The research design: four main chapters covers the first and second types are applied that mainly include history, philosophy and science concepts. And the third kind of spiritual is concepts and fitness covers and the end is discussed the geometric shapes and patterns.

4. Shekaryneiry, Jold, (1385). "theoretical mysticism and Applied Arts motifs in Islamic architecture", the magazine Art Monthly, 91 and 92, pp. 8 - 19. author's state of the art and geometry to explain mysticism, Shamse and Shms-hgrdan designs, materials and knots line four single bergamot has a role.

5. Ghamari, F. (1392), light and motif, First Edition, Tehran, Culture and Communication. In this study, a comparative study of the art of illumination and traditional poem five synthetic art to convey contemporary concepts of Islamic Sufism.

6-Keshavarz, M. (1380), geometry designs, MehrdadAhmadiSheikhan, First Edition, Tehran, culture Sba.nvysndgan the symbols and myths, draw geometric shapes, geometric shapes Open, Open forms and roles in Iran's and motifs on the subject, has classified in schematic form.


Imamzadeh Abdullah Obeydullah (AS) Damavand
"The Shrine of buildings in Damavand is very late 7th century AH. The building of tower Monument is a shrine with ridged body (and the images are painted on the teeth) and the color turquoise dome that the outer surface, the plaster seals can be seen. There is an inscription containing verses in the Holy Quran. " (Http://rcwit.ir/Default.aspx?tabid=598 ) This monument are 550 meters north of Damavand and in the neighborhood Darwish near the central Mosque is located. (Najafi, 1390: 135)

| Table 1. Overview of the ImamzadehAbdollahObeydullah (AS) Damavand. Source: authors) |
|---------------------------------|---------------------------------|
| Emamzadeh Abdullah Obeidullah (AS) Damavand | Emamzadeh Name |
| Damavand, neighborhood Darwish | Place |
| Darwish neighborhood near religious site | |
| Late Seljuk period and the patriarch (7th century AD) | Period (dating back) |
| Plaster | Building interior |
| Tile, Brick | Building Exterior |
| Through the skullcap, plaster | Roofing materials |
| From the outside with tiles | |
| Mosaic | Flooring material monument |
Cone Rack

<table>
<thead>
<tr>
<th>Type Dome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doesn’t have</td>
</tr>
<tr>
<td>Finial</td>
</tr>
<tr>
<td>2 miracles inlaid windows</td>
</tr>
<tr>
<td>shrine</td>
</tr>
<tr>
<td>7 windows6 windows in the roof</td>
</tr>
<tr>
<td>window</td>
</tr>
<tr>
<td>4; 1 main entrance, 2 at the entrance of the shrine; 1 at the entrance to the courtyard</td>
</tr>
<tr>
<td>door</td>
</tr>
</tbody>
</table>

"The building of brick tower, outside the circular stairs, has 33 edge that starts from the base The interesting things about Chinese brick tower that has a height of three meters decorations, and from this height, the typical Chinese brick is started. Decorations between the bricks, pieces of plaster that vertical bands filled the bricks. (Habibi, 1389: 190) In view of the building under the dome with plaster Shms-hay have created roles, Shamse located in the midst of all the involved stars such, This role is highlighted In the center of the star motif, the role created Shamse, then repeat the same until the stars come out. They will take all the stars on each tip of the triangle, there diamond. Among them appeared to highlight the role of decorative petals. 4 of the diamond has been lost All roles are petals decorative moldings that prominently shown. This shrine has geometric designs, plants, animals, and ispictographs. (Table 1 and Table 2)"

Table 2. Total motifs ImamzadehAbdollahObeydollah (AS) of Damavand. Source: authors

<table>
<thead>
<tr>
<th>Pictures of motif</th>
<th>Composition</th>
<th>Format motif</th>
<th>Technique of motif</th>
<th>Type of material</th>
<th>Type of symbol</th>
<th>Type of motif</th>
<th>Motif names</th>
<th>color</th>
<th>Location of motif</th>
</tr>
</thead>
<tbody>
<tr>
<td>spread rectangle Stucco Plaster ball bottom</td>
<td>Spread</td>
<td>Brick</td>
<td>Sym bolic</td>
<td>Geometric</td>
<td>motif chain</td>
<td>Brown</td>
<td>External wall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>spread rectangle Stucco Plaster ball bottom</td>
<td>Spread</td>
<td>Brick</td>
<td>Sym bolic</td>
<td>Geometric</td>
<td>motif chain</td>
<td>Brown</td>
<td>External wall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>spread rectangle Stucco Plaster ball bottom</td>
<td>Spread</td>
<td>Brick</td>
<td>Sym bolic</td>
<td>Geometric</td>
<td>motif chain</td>
<td>Brown</td>
<td>External wall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>spread rectangle Stucco Plaster ball bottom</td>
<td>Spread</td>
<td>Brick</td>
<td>Sym bolic</td>
<td>Geometric</td>
<td>motif chain</td>
<td>Brown</td>
<td>External wall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>spread rectangle Stucco Plaster ball bottom</td>
<td>Spread</td>
<td>Brick</td>
<td>Sym bolic</td>
<td>Geometric</td>
<td>motif chain</td>
<td>Brown</td>
<td>External wall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technique</td>
<td>Direction</td>
<td>Pattern</td>
<td>Material</td>
<td>Symbolic</td>
<td>Geometric</td>
<td>Eslimi</td>
<td>Brown</td>
<td>Location</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-----------</td>
<td>---------</td>
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<td></td>
</tr>
<tr>
<td>Hori zontal</td>
<td>Diam ond</td>
<td>Wood carvin g</td>
<td>Wood</td>
<td>Sym bolic</td>
<td>Geo metri c</td>
<td>Eslimi</td>
<td>Brown</td>
<td>door</td>
<td></td>
</tr>
<tr>
<td>Hori zontal</td>
<td>Diam ond</td>
<td>Wood carvin g</td>
<td>Wood</td>
<td>Sym bolic</td>
<td>Geo metri c</td>
<td>Decor ative</td>
<td>Brown</td>
<td>door</td>
<td></td>
</tr>
<tr>
<td>spr ead</td>
<td>Diam ond</td>
<td>Lattic ed wood en Orsis azi</td>
<td>Wood</td>
<td>Sym bolic</td>
<td>Geo metri c</td>
<td>Decor ative</td>
<td>Brown</td>
<td>shrin e</td>
<td></td>
</tr>
<tr>
<td>Sym metry</td>
<td>Circle</td>
<td>Gildi ng on plaste r</td>
<td>Paint on plaster</td>
<td>Sym bolic</td>
<td>Plant</td>
<td>Gildin g</td>
<td>Tradit ional color s</td>
<td>roof</td>
<td></td>
</tr>
<tr>
<td>Sym metry</td>
<td>Square</td>
<td>Etchi ng</td>
<td>Metal</td>
<td>Iconi c</td>
<td>Anim al</td>
<td>Eagle</td>
<td>Blac k</td>
<td>Door</td>
<td></td>
</tr>
<tr>
<td>Sym metry</td>
<td>rectan gle</td>
<td>Etchi ng</td>
<td>Metal</td>
<td>Iconi c</td>
<td>Plant</td>
<td>Flowe r</td>
<td>Blac k</td>
<td>Door</td>
<td></td>
</tr>
<tr>
<td>Hori zontal</td>
<td>triangl e</td>
<td>Gildi ng</td>
<td>tile</td>
<td>Sym bolic</td>
<td>Plant</td>
<td>Decor ative</td>
<td>Blue cyan, Whit e</td>
<td>Exter nal wall</td>
<td></td>
</tr>
<tr>
<td>Hori zontal</td>
<td>rectan gle</td>
<td>Burl</td>
<td>Wood</td>
<td>Sym bolic</td>
<td>Pictograph s</td>
<td>Eslimi</td>
<td>Gold en</td>
<td>Crow n Shin e</td>
<td></td>
</tr>
<tr>
<td>Hori zontal</td>
<td>rectan gle</td>
<td>Carve d wood, enam el</td>
<td>Wood</td>
<td>Sym bolic</td>
<td>Pictograph s</td>
<td>Frame d Qur an ic inser tion</td>
<td>Brown</td>
<td>Dow n crow n shrin e</td>
<td></td>
</tr>
<tr>
<td>Decentralized</td>
<td>Decentr alized</td>
<td>Circle</td>
<td>Wood carvin g</td>
<td>Wood</td>
<td>Sym bolic</td>
<td>Plant</td>
<td>Eslimi</td>
<td>Brown</td>
<td>Crow n Shin e</td>
</tr>
</tbody>
</table>
PLACE OF THE SYMBOLS IN ISLAMIC ART

From the mysticism perspective, the world based on God's divinity and divine aspects of the material world. The cosmological principle has caused the entire cosmos, manifestation and expression of absolute truth. According to Plotinus, the universe is tangible manifestation of the universe. (Gilani, 1393: 67) Each of the motifs have their symbols. "The Symbolism of the word is sign, sign, encrypt and sign and terminology, practice or art of the use of symbols, principles of using symbols and signs to express the opinion or an event reminder." (Gilani, 1393: 23) Therefore, only by recognizing the principles metaphysical symbols and sacred sciences that finds as well as awareness of the meaning of symbols, semiotics and literature. It is understandable and with a mastery of comparative literature and discussions nations can be shared spirit symbols in the civilizations that have internal unity, reread. (Coomaraswamy, 1977: 330) Symbols facilitate convey meaning can understand a sense of the complexity and difficulty simply and setup a symbol audience. (Schuon, 1963: 180) "The purpose of sacred art, not merely convey emotions and feelings, but also make the heaven and the divine, Which by using symbolism and allegory, the soul from the material world flight, the release of material limitations and understand the facts is superior. Hence, sacred art with careful use of allegory and symbol, beyond aesthetics, are used to tell the truth and ritual acts. Religious art (sacred art) often ignores the visual appeal and beauty of it is, more than anything of spiritual truth and, therefore, the accuracy of Coded and allegorical aspects, as well as the benefits it comes to ritual acts and mystical vision."(Gilani, 1393: 73 and 74)

MOTIF DIVIDED BY SUBJECT

"Each motif or image means for visual image That is in the way and iconic imagery puts in the mind of humans. Image is a French word that means the statue, statues, pictures, sculptures and has been translated and all of these cases is rooted in visual arts. Volume and image is intended in them. This means that once a man uses a word for a meaning and says "snake" and once against this word shows the picture and paintings of snake to others that this picture is said motif or image. For example, the decorative motifs of Islamic art motifs inscription is sometimes referred to tiling In which, the Quran or Hadith the third line is written and then used vegetable or animal motifs That is against relief inscription Therefore, any plant or animal motifs in Islamic culture that pays image for animals or plants, is said motif or image. " (Gilani, 1393: 22 and 23)

"Muslim architects with elements such as replication, replication, mirroring and continuous composition of motifs and geometric designs, plants, decorations and presents strong trend and have tried grandeur of the architecture with the beauty and elegance intermingle." (Dalu Jones: 161)

Amamzadhay motifs city of Damavand in Tehran province is divided 4 categories: 1) plant designs 2) geometric 3) animal motifs 4) pictographs.

THE PLANT DESIGNS.

Eslimi designs devoted to Islam is composed of two elements: design interwoven and Vegetable designs. The interwoven designs are fundamentally interwoven graph geometric thinking. While outlining designs sign vegetable weight. And because of the spiral composition forms have perhaps received less than a real plant to a purely linear style. Eslimi designs with the loss of all their similarities have solely pursuant to the laws of nature and the rhythm weight, Eslimi designs are logical and harmonious and based on mathematical records and music melody data. "More Khtayyfeatures in the form of leaves or buttercups or pomegranate flower-inspired blue and red
flowers. And the overall picture is generally round or oval, but across the surface decorated with arabesque movement and stillness leads. The audience glance may not stick anywhere and everywhere in the course of margin into the designs and the inside out. " (Hzavhay, 1363: 91) "Eslimi is a technique of decorating the surface or in the field of applied arts or crafts and painting) And in which form intertwined bud and flower and foliage plants that are mentioned in Islamic books ,And called the name of paradise plants used for plants such as pomegranates Date - Grapes – Pomegranate. As a result of the initiative and imagination of several generations of artists over the centuries have shaped the world in different nations ,And they have become abstract shapes or abstract. "Hzavhay, 1363: 91) on the face and appearance Slim survey stays in the circle bent head and surrender. There are several elements in Eslimi collection: (1) Paisley (Art); (2) the Eslimi; 3. grip and knots; 4 show. (Pvrkhrmy, 1383: 1)

Figure 1.- Holy shrine of Abdullah Obeiydullah (AS) Damavand, reconstruction and infrastructure of linear and geometric color,Source: authors

**Figure 1**: color reconstruction relief role

Motif Geometric infrastructure

Linear reconstruction role

The arabesque(Eslimi) motifs is seen on the shrine inlaid. This motif is in 3 equal part of a triangle (spicy bergamot nodes) and is used brown and designed in the role of symmetrical composition. And the composition is released in the entire building. (Table 2, Figure 1) and Arabesque motifs have the
idea of centralization to complete in their own way. Eslimili such as spiral in nature, are complex spiral that revolves around a central point. And leading to fit close to the center are narrow and thinner. Despite the lack of symmetry in that, because of the coordination, spiral has significant emotional and dynamic motion by moving towards the center. The fine print expand at all levels. Figurative geometric designs of Divine Light is emitted along the same angles and present projects carried out in all points. Coordination available in various designs, there is nothing but the same sense of unity and multiplicity available. (http://ehonari.blogfa.com/1392/07)

Girih tiles set of primitives that with discipline and bolts harmonious and symmetrical forms are arranged side by side. (www.irandeserts.com) And the geometry of the universe is an expression of the order. An echo of unity expand within the shade. The base of pyramid is triangle. Equilateral triangle is the symbol of divinity, harmony and proportion

GEOMETRIC PATTERNS
Geometry is a knowledge that explores various forms and characteristics of each, alone or in deal with the relationship between them. This knowledge, along with the "Account" are considered of the oldest branches of "mathematics". The word geometry is an Arabic equal for Farsi version of the word "size". Geometry is coming from the Greek "Gyvmtrya" means "measuring the earth". The Mesopotamians and the Egyptians considered the first family that benefited from geometry. Until that the Egyptians were able to solve the Unknown problem of agricultural land after the flooding of the Nile each year. And then make it possible even to build complex structures such as the pyramids. Producing mesmerizing shapes and discover its secrets, encouraged engineers (those who know geometry) Not only in the construction of magnificent monuments but although decorate them by use of their geometry. This is especially Islamic countries that respect human and animal imagery there was more depth and destruction found. And became one of the distinctive features of Islamic art. Thus, geometric shapes such as circle, triangle, square, stars and polygons, combined together into a role for decorating buildings that were deployed on the same knowledge. This forms can be seen in the most Iranian art works, including architectural decorations, including tiling, girih tiles, moldings, mirror working, Mogharnas, brickwork, as well as in traditional arts such as metalworking, Mshbkkary, weavers and old wooden windows are seen in abundance. " (Agriculture and AhmadiSheikhan, 1389: 9, 10)

Islamic geometric patterns, with visual and symbolic meanings, can be used as an element with a particular cultural and traditional identity of this land, the lives of these people become irretrievably). Geometric patterns in traditional Iranian art had a deep and unbroken link with theoretical principles, philosophy and their true origin of the religion of Islam and it was important to reflect Islamic philosophy. (Snacks Myrfkhrayy, 1393: 9) More geometric patterns are based on Islamic art and architecture, the repetition of a single motif are based.

The designs should be designed in such a way that the possibility of a link between all the components of a good repeating is possible. (Brugge, 1391: 10) Humans have always believed that everything in the world, his eternal symbol and duplicate samples in the realm of the sublime. According to this belief, a person is considered a manifestation of creation and expression and the right to the attributes of God activities. And since human beings are not all in a single level spiritual, need the same language. This common language, the same symbolic language is based on the foundations of Islamic and Iranian traditions, the esoteric facts in deal with in the case. (Snacks and Myrfkhrayy, 1393: 12).

Proportionality between the components and the total combined figures due to limitations role models and practices specific measures flows. Thus, access to a whole vast world of Islam in the Islamic faith on the basis that all creation are coordinated and consistent, is compatible. (Said, 1392: 13). Almost geometric motifs are seen in most the existing buildings in the city of Damavand. These motifs are similar to Islamic religious motifs keep structural tissue sites such as mosques (the designs in tile, stucco, etc. are) course in this area motifs local materials like clay, wood creator have special geometric forms. (Table 2).
Figure 2. The outer wall of the shrine of Abdullah Obeidullah (AS) Damavand, decorative motifs; Source: authors

Figure 3. Shrine of Abdullah Obeidullah (AS) Damavand, reconstruction and infrastructure of linear and geometric color; Source: authors

Figure 1: The foundations of geometric linear reconstruction

Color reconstruction motif

Motif
Figure 4. The outer wall of the shrine of Abdullah Obeidullah ... Damavand (AS), reconstruction of infrastructure and the role of linear and geometric color;

Source: authors

Figure 1: The foundations of geometric linear reconstruction

Color reconstruction motif

Motif

This decorative chain in the form of a rectangle is drawn. (Figure 1, Figure 2 and Figure 3), Forms to a considerable degree summarized and used to draw these forms of 4 isosceles triangle is 2 to 2 are the same size. And symmetrically opposite the circular table is in the center of motif in everyone's role. Artists are successful in drawing the designs on the plaster. Designed in the role of symmetrical composition is used and the composition is released in the entire building. (Table 2) A special kind of decorative motifs used in buildings and patriarch of the Seljuk period, that it is tasteful and architects is uniform to bring out the interest of the state, This role is often used often in the shape plaster and concrete and how to implement it, are the same in almost every patriarch and Seljuk buildings. However, according to the article "The doctor A. Dadvar" Donald Wilbur has chosen. "bottom brick plaster hub" for the decoration of choice that at first glance appear unfamiliar words. (RADVAR, 1385: 92) This type of decoration can be seen in many buildings as it seems. At First, for the same chain designs on the wall were run and later more fully with Kofi lines and ornamental plants in combined. However, according to some guiding this sign means "day" But it seems was used in Ilkhani era more especially as a seal architects. The main role of the center as a rule, be expanded to other areas. Although this type of decoration in its evolution was more complex and more perfect, but over time their application was reduced gradually. And the main reason for this issue was the entrance of tile, particular tile seven colors as a quick ornamental tool in architecture. This role not only in the Holy Abdullah Obeidullah (AS) Damavand, but in most places where the "plaster finish bottom of the
"brick" used, has gone as a key part of the work. Including: Grand Mosque of Yazd, Isfahan Grand Mosque and Grand Mosque of Saveh. Khampaare those types of decorative chains that have been created only by the combination of visual elements "line". They are decorations that has been created Specifically from the motion or tangled twist of a line (a line forms) in a ball space. Find coils along the horizontal grouting ball into space, its movement within this space, and entangled it in this space, is created a kind of decorative chain. The most well induce a sense of movement. (Dadvar, 1385: 91) Artist designs are simple and well in pulling the plaster on the Astlyz-h. The symmetrical composition is used in designing the role and this composition is spread in the entire building. Religious opposition to decorate the image of Muslims with any aspect of idolatry that was a cause extreme attention to decorations were abstract and geometric. (Hlynbrand, 1378: 168). All roles camera observed what looked like a brick or stone bottom Emamzadeh Obeidullah Abdullah (AS), are geometric patterns. Geometric patterns have been used on the hub to have specific and detailed visual. In all these roles to avoid the diversity and distribution, as only using one of two basic elements are formed such as lines and triangles, lines and circles, squares and triangles. Observance of the principle of repetition and symmetry with the development of rhythm, movement coordination is varied in relationships between elements of the cause massive motifs. Cosmetic function is decorative and architectural aspects of values and a building with all components and units is thought as a whole, interconnected and coordinated. No other components does not present any details if possible. This kind of thinking in the construction of sacred buildings such as mosques can be built, particularly in centrifugal spiritual approach to the entire community and origin of creation be considered. (Dadvar, 1385: 91)

THE ANIMAL MOTIFS
Restrictions of Muslim religious beliefs caused not to extend this relief. In general, the scope of these designs is very limited. Animals have always had a special place in the culture and believe of Persians. And the use of animal motifs for writing short is the defining characteristic of Iranian art. Throughout history, artists of various disciplines from have used the shape of animals under their creations to their advantage. In this context, is not like the Iranian nation's. Iranians have had different ideas and beliefs about animals, because he has been drawing these designs on a variety of hand-made. The same opinions are that give profound implications to their works. Imagining Islamic tradition continued during treatment with animal motifs in a variety of industries and applied arts. Numerous examples of this image could be seen. The remnants of different ages. That images which have been recreated carefully, with attention to detail and exquisite abstract manner. (Nadim, 1386: 10)

Figure 5. The role of the Holy Abdullah Obeidullah (AS) Damavand, the eagle; Source: authors
The eagle’s wings is seen that it is open to the top And the eagle look on every door on the left. Inside a ring of flowers and plants has opened its wings. (Table 2, Figure 5 and Figure 6) Traditionally Eagle, among the various nations, was and is as a symbol of authority based on insight. "Eagle", as the strongest flying creatures, is not only a symbol of authority in heaven and on earth but also because of the prospect of an unattainable place (heaven), is also a symbol of insight. Sign of "Eagle" among the Aryans was been as one of the most prestigious and most respected symbols of mythological purported. Extent that at the time of "Cyrus the Great" and by his command, has become a national symbol Corp and the fact sign of the authority of the Persian Empire.
By order of "Cyrus the Great", the blue fabric with a design of gold (gold) of the imperial eagle (hawk), the Persian Empire was used as a symbol of authority and army flags. In this site in honor of "Cyrus the Great", the theme of the blue and golden eagle in honor of his flag was once the Iranian flag. The Eagle silver (silver) is used as a symbol and logo. (Www.laylazi.ir) In every period of history, Prey birds were a symbol of strength and speed. Prey animals mark suggests that a treasure exists there. Here the eagles view is on the entrance on right side of the door opening and eagle eyes is to pathway of shrine that shows there is a treasure and leads us to the Shrineand the entrance on the left path is towards the exit. Being Open the wings of the eagle is sign of a mausoleum that was built in memory of that person. (Www.irantreasure.net) It seems that image of eagle represents the Holy Guardian. (Www.rasekhoon.net) It is a sign of strength and a symbol of divine protection and the patron god, tall and excellence. (Agriculture, 1389: 99). "Hawk is a bird nest long Stowe, stupid, look sharp, sharp cry, cry thick, thick tip and hard to grip with long life and glory ended in the ability of birds and fowl in the Persian is called “Aleh (s).” (Dadvar and Mansoori, 1385: 111) The eagle means knowledge, freedom, hope, faith, authority, divinity, patience, fearless, purity, fertility, lightning, divine power, the power of flight and moving. (Habibi, 1381: 120) The eagle inside a ring that is a sign of respect to the covenant. The ring, which is a linear circle, indicates that we begin from each point we will get back to the same point. This means that every action and deeds will happen in this life (the circle) The resultant its impact will remain in the man's world. (Open to reach the area of the circle) and other mental world of reward or punishment will be enjoyed.

HUMAN PAINTINGS
This category of books that portray human beings in different states pay Since the beginning of the tradition was of their attention. The motifs inscribed on the walls of caves of Lorestan and Kun Khwaja the Parthian period and contemporary paintings, paintings can be traced to a human of all types of Persian arts, Human imagins especially in the Achaemenid and Sassanid periods that the Iranian art was the royal art. And the image of the king in various states dealt with, were highly regarded. But in the Islamic era, the art of creating an atmosphere that helped mankind in its eternal path of knowledge. Avoids everything can be even partially and temporary idols. (Burckhardt, 1370: 16Z). That is why the human figure loses its importance. But despite the limitations of imaging, they still continued to exist. Although architectural motifs and decorations were marginal, imaging, scientific treatises, stories and epics were used. Restrictions of Muslim religious beliefs and caused it not to work and develop their designs Shrine and overall scope of the relief in the shrine was zero.

PICTOGRAHPS
Alhnsy the decorative motifs in Islamic art, said; "This phenomenon interesting art is not a simple role, but of the kingdom and the might of God, and at the same time a religious verse and the verse of art. What we see in these roles is in fact an interpretation of worshiping but for invention. " (Alhnsy, 1385: 121Z). In general, one of the ways to decorate artwork or description of what it means to be used to complete the inscription journalists. Throughout history inscriptions have been used in three ways: 1 To transfer messages or record specific events and narration as well as public service announcements; 2. To show the specifications and the manufacturer's name and logo or artwork or client And in a kind of sign; 3. In order to emboss the building or work of art and Quranic verses informative sentences with the aim of reverence and sanctity More from this group Islamic religious works has been welcomed by many. (Sheriff, 1388: 9) Dictionaries, have meaning scroll to the hands of the army or the army or the herd of horses. When the inscription to be carefully observed in accordance with the literal meaning is revealed, Because the letters can be seen as a cavalry parade. Various positions of heads remember swords and spears and flags. Writing any line of Islamic lines for inscription is possible. (Fazaeli, 1376: 130)
**Table 3.** The results of the distribution relief in the Holy Abdullah Obeidullah (AS) of Damavand.

Source: authors

<table>
<thead>
<tr>
<th>Percentage</th>
<th>The number of motifs</th>
<th>Sanctuary</th>
<th>External wall</th>
<th>Interior wall</th>
<th>Column</th>
<th>Roof</th>
<th>Window</th>
<th>Door</th>
<th>shrine</th>
<th>Placement locations and designs</th>
</tr>
</thead>
<tbody>
<tr>
<td>53%</td>
<td>9</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td>Geometric patterns</td>
</tr>
<tr>
<td>6%</td>
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<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>2</td>
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<td>Animal motifs</td>
</tr>
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<td>29%</td>
<td>5</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td>Plant designs</td>
</tr>
<tr>
<td>12%</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>Pictographs</td>
</tr>
<tr>
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<td>6</td>
<td>1</td>
<td>4</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td>The number of motifs</td>
</tr>
</tbody>
</table>

According to a survey designs in Imamzadeh Abdullah Obeidullah (AS), which includes 17 roles, in order of frequency and percentages is as follows: Geometric motifs: 9 and 53%; plant designs: 5 and 29%; pictographs: 2 and 12%; animal motifs: 1 x 6%. (Table 3 and Figure 1).

**chart 1:** Distribution of frequency and percentage search results motifs Shrine of Damavand city

Divided by subject Source: authors

**Table 4.** Percentage distribution of relief Amamzadhhay search results based on the classification issue and components based in Damavand city. Source: authors.

<table>
<thead>
<tr>
<th>Percent of</th>
<th>The total</th>
<th>pictogram</th>
<th>plant</th>
<th>animal</th>
<th>Geometric</th>
<th>The components</th>
</tr>
</thead>
</table>

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<table>
<thead>
<tr>
<th>Component designs</th>
<th>Number of each of the components</th>
<th>Designs</th>
<th>Motifs</th>
<th>Ric motifs</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>37%</td>
<td>89</td>
<td>18</td>
<td>47</td>
<td>24</td>
<td>Shrine</td>
</tr>
<tr>
<td>25%</td>
<td>60</td>
<td>2</td>
<td>38</td>
<td>1</td>
<td>Door</td>
</tr>
<tr>
<td>8%</td>
<td>20</td>
<td>4</td>
<td>1</td>
<td>16</td>
<td>Window</td>
</tr>
<tr>
<td>9%</td>
<td>23</td>
<td>7</td>
<td>1</td>
<td>15</td>
<td>Roof</td>
</tr>
<tr>
<td>1%</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>11</td>
<td>Column</td>
</tr>
<tr>
<td>12%</td>
<td>29</td>
<td>3</td>
<td>15</td>
<td>11</td>
<td>Interior wall</td>
</tr>
<tr>
<td>6%</td>
<td>15</td>
<td>5</td>
<td>2</td>
<td>8</td>
<td>External wall</td>
</tr>
<tr>
<td>2%</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>93</td>
<td>Sanctuary</td>
</tr>
<tr>
<td></td>
<td>243</td>
<td>31</td>
<td>117</td>
<td>2</td>
<td>The total number of each of the components</td>
</tr>
<tr>
<td>100%</td>
<td>13%</td>
<td>48%</td>
<td>1%</td>
<td>38%</td>
<td>Percent of all of the components</td>
</tr>
</tbody>
</table>

**Chart2**: Frequency distribution and percentage of survey results Imamzadeh Abdullah Obaidullah Damavand based division of thematic motifs. Source: authors.
Chart 3: Distribution of books search results in the Shrine of components based in Damavand city
Source: authors

Chart 4: Distribution of frequency and percentage search results motifs Shrine of Damavand city
Divided by subject Source: authors
CONCLUSION
Non-material and spiritual topics are non-visual and performing. And because there are real issues and facts, to show them have to used a means of initiating the most obvious and most common among the different communities is "symbol". Any society, especially religious-spiritual communities, requires familiarity with the secrets and symbols are common and common in our culture and society. To their community and their cultural relation with literary and artistic works and has established a fuller and better understanding of these effects may be provided. Alienation communities with their cultural heritage is one of the issues that afflict many societies in recent decades, it is natural that the purpose of the recognition and protection of cultural heritage, are not focusing solely on material aspects and some; But what is important is to recognize outstanding aspects of qualitative and spiritual attributes and characteristics and particular features, thinking and find ways is to use and take advantage of them in their life today. Due to erosion every day and works by taking the value of the works, both from a physical and symbolic aspects, is required to study more deeply about them. Because these designs are part of the land art treasures and knowing them helps to sustain relief. Iranian-Islamic motifs that is full of mystery and parcel of kindness is the fruit of labor. With love, frenzy and his efforts during the past centuries marked on the page of time. Understanding the mysterious motifs of Islamic Iran as a special contribution in the development and promotion of fundamental motor armature can open new perspectives in the field of graphic artists. According to the research the following results: 1. Divisions thematic motifs based in Damavand city Ammazadhay divided into 4 categories: 1) plant designs 2) geometric 3) pictographs 4) animal motifs
2. Symbolism and motifs continuity has always during different historical periods of the features and Islamic Iranian art.
3. The tool displays immaterial and spiritual topics, sign and symbol.
4. Motifs and decorative designs clarifying the facts and realities of the Islamic world
5. Holy designs are based on Iranian culture - Islamic world to create material and spiritual link
6. Nature does not imitate the humility of the artist since the establishment of God's own perfection
7. According to a survey designs in Imamzadeh Abdullah Obeidullah (AS) which contains 13 signs
8. As frequencies and percentages is as follows: geometric motifs: 53 numbers and 9%; vegetable motifs: 5 and 29%; motifs of pictographs: 2 and 12%; animal motifs: 1 And 6%. Is the Most designs and the outer wall of the shrine doors each with 6 role. (Table 3 and Figure 1)
9. According to the survey Ammazadhay motifs in the city of Damavand, in order of frequency and percentages is as follows: : Plant designs: 117 x 48%; geometric motifs: 93 and 38%; motifs of pictographs: 31 and 13%; animal motifs: 2 and 1%. (Table 4 and Figure 3)
10. According to the designs of the components Ammazadhay the city of Damavand Most motifs in the shrine with the plant designs with 47 to 37% is used. (Table 4, Figure 2 and Figure 4)

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Thesis
Sheriff, A. (1388). "Checking the contents of Shia religious buildings Mazandaran until the end of the Qajar", MSc thesis research, art, H. Ayatollahi, Shahed University.

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www.irantreasure.ne
www.laylazi.i
www.rasekhoon.net

Latin resources
THE RELATIONSHIP BETWEEN BURNOUT AND ORGANIZATIONAL COMMITMENT WITH ROLE OF MODERATOR OF DEMOGRAPHIC VARIABLES (CASE STUDY: SOCIAL SECURITY ORGANIZATION OF WEST DEPARTMENT OF MAZANDARAN PROVINCE)

Somaieh Roshantalab Haghani
Department Of Public Management, Bandar E Anzali Branch, Islamic Azad University, Gilan, Iran
bordbaramn@gmail.com

Morteza Hazraty
Department Of Public Management, Bandar E Anzali Branch, Islamic Azad University, Gilan, Iran

Mohammadreza Moosivand
Department Of Public Management, Bandar E Anzali International Branch, Islamic Azad University, Gilan, Iran
Amir.m1234567@gmail.com

ABSTRACT
The aim of the present study is to reveal the relationships between the burnout levels of the people employed in the social security organization of the west department of Mazandaran province (as well as relevant subdimensions such as emotional exhaustion, depersonalization, and reduced personal accomplishment) and their levels of organizational commitment (as well as relevant subdimensions such as affective commitment, continuance commitment, and normative commitment). The study makes use of the following scales: “Burnout Scale” and “Organizational Commitment Scale”. In this context, a brief definition of burnout would be the reaction of the individual against the demands and the stress levels of the workplace, whereas organizational commitment might be defined as the interest and the attachment of the individual towards the organization (as well as a comparative sense of belonging). As a result of the analyses carried out, the Pearson correlation coefficient (a parametric test) has been calculated in order to reveal the relationships between the aforementioned variables. Two sets of relationships between the relevant subdimensions have been found to be statistically insignificant: 1) the relationship between the subdimensions “reduced personal accomplishment” and “continuance commitment,” 2) the relationship between the subdimensions “depersonalization” and “normative commitment”. Correlation coefficients in all other binary comparisons have been found out to be statistically significant. As a result, it has been demonstrated that there is a significant relationship between burnout and organizational commitment.

Keywords: Burnout, Organizational Commitment

THEORETICAL PRINCIPLES

BURNOUT
The concept of burnout was suggested by Herbert Freudenberger who was working as a psychoanalyst in a clinic in New York (Shepherd et al, 2011:397). However, the most widely accepted and used definition of burnout was made by Maslach who described it as a multidimensional structure. According to author, burnout is a reaction to stress and job-related demands in the workplace, and involves emotional exhaustion, depersonalisation and personal accomplishment (Raiger, 2005: 72; Halbesleben and...

ORGANIZATIONAL COMMITMENT
Organizational commitment serves as emotional and mental dependence to organization that on the basis of it high commitment person determines his/her identity in organization, cooperates in organization and enjoys due to organization membership (porter et al., 2004).

Morhead and Grifin know tow organizational commitments, identity sense and person dependence to organization. In their view commitment and loyalty affect on important behaviors such as replacing and absence and could commitment and loyalty, have more discipline in their job, stay in organization for a longer time and do more work organizational commitment dimensions from Allen and meyer model have emotional commitment, continuous commitment and normative commitment. Emotional commitment defines as dependence to an organization and determines identity that considers through organizational values acceptance and by tendency to stay in organization. Second dimension of Allen and Mayer organizational commitment is contineouse commitment that is on the basis of Biker investments. This theory is on this base that through the time, individual collects an asset in organization. In more experience, this asset is more and losing it has more cost. Such investments include organization especial skills obtain time that is not transferable.

Third dimension of organizational commitment is normative commitment that indicates one kind of responsibility to contineue cooperation. Responsible commitment has realized as a duty to support organization and its activities and refers to stay necessity in organization that individual think that to contineue activity and support organization is their responsibility (Allen, mayer, 2010).

THE PURPOSE AND SIGNIFICANCE OF THE STUDY
The main purpose of this study is to determine whether the levels of burnout ofemployees are related to their organizational commitments. Another purpose of the present study is to reveal the relationships between the sub-dimensions of burnout and the sub-dimensions of organization commitment. This is because; a clear understanding and thus effective management of the relationships between the said two variables can be achieved only in this way. The fewness of the number of studies where these two variables have beencovered and examined in the literature makes this study more significant. It is noteworthy that no such detailed study has been conducted on this subject in Turkey. This study will guide and be useful for both researchers and implementers in the future works.

HYPOTHESES AND CONCEPTUAL MODEL DEVELOPMENT
This study analyses burnout effect on organizational commitment of employees social security organization of west department of Mazandaran province. Studying model introduces in following beside research hypotheses.

H1: There is a negative relationship between burnout (and the relevant sub-dimensions) and organizational commitment.
**H2:** The relationships between burnout (and the relevant subdimensions) and the sub-dimensions of organizational commitment vary.

**H3:** Demographic variables constitute a difference in terms of burnout.

**H4:** Demographic variables constitute a difference in terms of organizational commitment.

![Figure 1- Research conceptual model, OZYER, 2014.](image)

**METHODOLOGY**
Current research is according to its aim in practical researches type. Regarding to practical research aim that is to receive practical results, resolution finding for real issues and practical knowledge development is in a special area and method to do practical works, and this research knowing analyses burnout effect on organizational commitment of employees social security organization of west department of Mazandaran province. In data collection is descriptive, procedural. This method uses to know individuals views, believes and behavior and determines their correlation, or share and distinction according to obtained data from written or oral question and compares them. Using questionnaire, interview and observation are three methods to collect data in procedural studies (sakaran, 1387). Also in data certainty due to research on the basis of hypothesis and test hypotheses, research is certain. In this research, statistical community is all employees who are active in social security organization of west department of Mazandaran province and are 225 ones. Case mass using koocaran formula (random sampling) is 105 ones. In this research to study data collection has used two methods:

1- library method: subject literature, books, magazines, reports, theses, scientific researches and internet sites studied and necessary information collected in subject and research variables terms.

2- Field method to obtain needed information used questionnaire. This questionnaire descriptive has studied in content and face method and used masters and experts judgement. In this research has used cronbach alpha to determine stability and confirmatory factorial analysis. To calculate cronbach alpha used SPSS. Cronbach alpha was 0.924 for burnout, 0.936 organizational commitment. To analyse obtained results used method analysis technique. (structural equations modeling) using LISREL 8/5

<table>
<thead>
<tr>
<th>variable</th>
<th>Cronbach Alfa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnout of job</td>
<td>0.924</td>
</tr>
<tr>
<td>Organizational commitment</td>
<td>0.936</td>
</tr>
</tbody>
</table>

**Table 1:** Cronbach's alpha value of the research variables
RESEARCH DATA AND FINDINGS ANALYSIS

Table 2 displays the results of Group Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>S. D.</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>emotional exhaustion</td>
<td>124</td>
<td>1.38</td>
<td>4.25</td>
<td>2.4844</td>
<td>0.78418</td>
<td>0.615</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>124</td>
<td>1.13</td>
<td>4.5</td>
<td>2.5239</td>
<td>0.78692</td>
<td>0.619</td>
</tr>
<tr>
<td>reduced personal accomplishment</td>
<td>124</td>
<td>1</td>
<td>4.2</td>
<td>2.2734</td>
<td>0.76797</td>
<td>0.590</td>
</tr>
</tbody>
</table>

Table 3: Group Statistics variable of organizational commitment

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>S. D.</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>organizational commitment</td>
<td>124</td>
<td>2.51</td>
<td>4.92</td>
<td>4.0921</td>
<td>0.34222</td>
<td>0.117</td>
</tr>
</tbody>
</table>

Prior to the investigation of the relationship between burnout and organizational commitment, whether or not these variables display a normal distribution has been investigated. The results have showed that they display a normal distribution. Therefore, parametric analyses have been preferred. The Pearson correlation coefficient (a parametric test) has been calculated in order to reveal the relationships between the aforementioned variables. Table 4 displays the results of the correlation analyses between burnout and organizational commitment. The results demonstrate that hypotheses 1,2,3,4 are correct.

Table 4: Correlations between burnout and organization commitment

<table>
<thead>
<tr>
<th></th>
<th>Burnout</th>
<th>organizational commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>-.821**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>124</td>
</tr>
<tr>
<td>organizational commitment</td>
<td>Pearson Correlation</td>
<td>-.821**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>124</td>
</tr>
</tbody>
</table>

Table 5: Correlations between Dimensions of burnout and organization commitment

<table>
<thead>
<tr>
<th></th>
<th>organizational commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>emotional exhaustion</td>
<td>-.777**</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>-.765**</td>
</tr>
<tr>
<td>reduced personal accomplishment</td>
<td>-.726**</td>
</tr>
</tbody>
</table>

Table 6: One-Sample Statistics of organizational commitment

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>organizational commitment</td>
<td>124</td>
<td>4.0921</td>
<td>.34222</td>
<td>.03073</td>
</tr>
</tbody>
</table>

Table 7: One-Sample Test

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>Sig.</th>
<th>Mean Difference</th>
<th>95% Confidence Interval of the Difference</th>
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</thead>
<tbody>
<tr>
<td>organizational commitment</td>
<td>35.536</td>
<td>123</td>
<td>.000</td>
<td>1.09210</td>
<td>1.0313 – 1.1529</td>
</tr>
</tbody>
</table>

Table 8: One-Sample Statistics of burnout

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>burnout</td>
<td>124</td>
<td>2.4272</td>
<td>.51825</td>
<td>.04654</td>
</tr>
</tbody>
</table>
DISCUSSION AND CONCLUSION

The analyses reveal quite interesting and significant results. The first important result is the existence of a negative relationship between burnout and organizational commitment. When their definitions are taken into consideration, this is hardly surprising. The unique contributions of this study lie in the relationships between the subdimensions of organizational commitment and burnout. As a matter of fact, the present study demonstrates the differences observed in the relationships between the subdimensions of organizational commitment and burnout levels. What is most critical here is the relationship between burnout and continuance commitment. Whereas burnout is negatively related to organizational commitment, affective commitment, and normative commitment, it seems to have a positive relationship with continuance commitment. Burnout by definition is a negative variable whereas organizational commitment is again by definition a positive variable. A negative correlation between these two variables is therefore to be expected as normal. However, it seems that as the burnout levels of the employees rise, so do their continuance commitment levels. The truth that emerges out of this finding is that perhaps continuance commitment is a variable to be questioned. Whereas literature usually accepts continuance commitment as a sub-form of organizational commitment, this finding shows to us that the subject should be investigated to a greater depth. It will perhaps be necessary, as a result of future studies, to separate continuance commitment from organizational commitment and define it under a new label.

There seems to be a generally significant relationship between the age of the participants and their levels of burnout and organizational commitment. As can be seen from the tables found in the analysis section, increasing age usually means higher levels of burnout. The same is valid for the subdimensions of burnout. This in itself seems to be a natural conclusion because all participants are engaged in social, interpersonal jobs. As a result, their levels of burnout will rise with age, and it will be more difficult for them to cope with burnout, which is a psychological state. The education level of the participants have led to certain differences, too. The critical point of this finding is that whereas education level has no impact on levels of organizational commitment, with the exception of continuance commitment, it has created significant differences both in total burnout and in its subdimensions. It is evident that different studies on this subject will be necessary in the future. It is clear that studies which are to focus on the sub-dimensions of variables will be more beneficial. It is thought that studies to be carried out with more participants and in different sectors will make important contributions to both researchers and practitioners.

REFERENCES


SOCIAL RESPONSIBILITY EFFECT ON CLIENT – ORIENTATION REGARDING TO MEDIATORY ROLE OF JOB SATISFACTION AND REALIZED ORGANIZATIONAL COMMITMENT BY WORKERS

Mahdi Ghorbanzad Kohnesari
Department of public Management, Bandar e Anzali Branch, Islamic Azad University, Gilan, Iran

Morteza Hazraty
Mhazraty2006@yahoo.com

ABSTRACT
Present research follows to study social responsibility effect on client-orientation regarding to mediatory role of job satisfaction and realized organizational commitment by Guilan Melli bank workers. Present research statistical case is 315 Guilan Melli bank branches workers in Iran to collect data and sampling method is classifying random. Using tool is Chronbach alpha for standard stability and response spectrum is 5 points likert. Questionnaire has made in field method and research is descriptive- analytical. To obtain data has used Liserl method. Deductive software has used structural equations modeling and data analysis showed that social responsibility eas effective directly and through job satisfaction and organization commitment on client tendency among workers.

Keywords: social responsibility, client-orientation, job satisfaction, organizational commitment

INTRODUCTION
Client-orientation causes positive financial results for organization as a marketism dimension. This process from client tendency will result in clients satisfaction and loyalty. Workers tendency subject to supply client needs refers to job culture. Tendency to client is the main dimension in each firm. It seems that client-orientation culture creating is nicipary to success organization and increase competitive advantage. Client-orientation results in client service act improvement (Lee et al, 2013). Client service act improvement leads to higher financial act, also high service levels result in higher rate of client conservation that its result is more sell and higher market share that are affected by different variables. Song et al (2015) in a research showed that social responsibility results in organization client-orientation. They showed that social responsibility through a process and organizational commitment and job satisfaction result in client-orientation. Many organizations serve social responsibility as the most important strategy to reach stable competitive advantage. Commitment has defined as need to conserve a continous relation, and a relation creates on the basis of mutual trust and commitment. Organizational commitment is showing workers extra try to obtain organizational purpose.

Organizational commitment is a psychological mood description that shows individual wants to stay at organization (Asiedu et al, 2014). Commitment is from interest and loyalty to work and strong believe to organizational values (Salehi et al, 2014). In organization social responsibility and client-orientation, organizational commitment will result in workers job satisfaction. Job satisfaction is a positive sense from job evaluation or its different dimensions (Russo & Buonocore, 2012). Regarding to above cases and this point that today as increasing banks number and financial institutions, attracting new clients forces costs for bank and in other hand researches have shown that present clients conserve cost is less than new clients attraction, so researches to rise tendency to client and its effective factors are necessary, because client- orientation fially results in increasing clients satisfaction and loyalty and improving banks act. The
main research question is as follow: Is affective Melli bank social responsibility on tendency to client by workers job satisfaction and organizational commitment.

**RESEARCH THEORETICAL FRAME**

Brammer et al., (2007) and also Turker (2009) studied workers realization of social responsibility and organizational commitment. They indicated that workers realization of organization social responsibility has an important role in organizational commitment. In castka & Ba Izrova view (2010) social responsibility is continouse commitment for moral behavior and individuals and their family life quality improvement, society improvement in wider scale (Maghighatian et al, 2013).

Organizational commitment is an important job and organizational view that during past years had attracted many researchers of organizational and psychological behavior especially social psychology. This attitude has changed in 3 ago decades (Khoshnood, 2011). Emotional dependency is a stable factor that relates individuals to organization that organizational commitment is a form of this emotional dependency (Thoma, 2015). Related to organizational commitment effect on job satisfaction should refers to Vandenberg & Lance (1992) that showed workers organizational commitment could be a cause to create job satisfaction. Workers job satisfaction as desired emotional status of job evaluation has defined to obtain job values and / or simple access to them (Jung & Yoom, 2013). Bateman and stasser (1984) said that during time, organizational commitment results in job satisfaction. Nam a sivayam and Zhao (2007) showed that organizational commitment has direct effect on workers job satisfaction. Related to job satisfaction effect on client-orientation Hoffman and Ingram (1992) said that job satisfaction could result in client-orientation behaviors. Client-orientation is a firm enough realization of its buyers to create higher value for them (Alteren & Tudoran, 2015). Lee et al, (2013) also verified job satisfaction positive effect on client – orientation (Song et al, 2015). Regarding to mentional cases and past researches results such as song et al, (2015) research model is as follow:

![Figure 1: Research theoretical model (Song et al, 2015)](image)

Regarding to theoretical frame and defined aims , research hypotheses are as follow :

1- Social responsibility economic dimension affects on organizational commitment.

2- Social responsibility legal dimension affects on organizational commitment.

3- Social responsibility moral dimension affects on organizational commitment.

4- Social responsibility altruist dimension affects on organizational commitment.
5- Organizational commitment affects on job satisfaction.

6- Job satisfaction affects on tendency to client.

**METHODOLOGY**

Present research aim is practical and its conducting method is description. This research method is correlational and data collection is field for Guilan Melli bank workers. Total workers number is 1400 in sampling. Research statistical community is classifying random and among workers. Regarding to above formula case mass is 310 ones. In this research used questionnaire to use Melli bank workers view and attitudes. Questionnaire has two parts that first part includes individual information and second part has expert questions.

<table>
<thead>
<tr>
<th>Table 1: Questionnaire questions table</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
</tr>
<tr>
<td>Social responsibility</td>
</tr>
<tr>
<td>Organizational commitment</td>
</tr>
<tr>
<td>Job satisfaction</td>
</tr>
<tr>
<td>Customer-orientation</td>
</tr>
</tbody>
</table>

In this research to determine questionnaire stability emphasized on questions coincidence and used Chronbach alpha for any variable. To compute stability coefficient used SPSS that firstly a case includes 30 questionnaires and then calculated Chronbach alpha.

<table>
<thead>
<tr>
<th>Table 2: Chronbach alpha related to questionnaire questions stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>Social responsibility</td>
</tr>
<tr>
<td>Organizational commitment</td>
</tr>
<tr>
<td>Job satisfaction</td>
</tr>
<tr>
<td>Customer-orientation</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 3: Research variables description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
</tr>
<tr>
<td>Economical responsibility</td>
</tr>
<tr>
<td>Legal responsibility</td>
</tr>
<tr>
<td>Moral responsibility</td>
</tr>
<tr>
<td>Altruist responsibility</td>
</tr>
<tr>
<td>Organizational commitment</td>
</tr>
<tr>
<td>Job satisfaction</td>
</tr>
<tr>
<td>Customer-orientation</td>
</tr>
</tbody>
</table>

**NORMALITY TEST**

<table>
<thead>
<tr>
<th>Table 4: Klomogroph-Smirnoph test for research variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>Economical responsibility</td>
</tr>
<tr>
<td>Legal responsibility</td>
</tr>
<tr>
<td>Moral responsibility</td>
</tr>
<tr>
<td>Altruist responsibility</td>
</tr>
</tbody>
</table>
Regarding to table (4) observe that obtained meaningful level for Kolmogroph – Smirnoph test is up to 0/05 and research variables have normal distribution.

Table 5 – Research variable t – test results Regarding to t – test results in table (5) observe that research variables mean is more than certain limit also regarding to table observe that the most mean is for tendency to client and at least for economic responsibility variable.

<table>
<thead>
<tr>
<th>variable</th>
<th>T</th>
<th>Mean</th>
<th>T</th>
<th>Std. Error Mean</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economical responsibility</td>
<td>315</td>
<td>3.5101</td>
<td>12.159</td>
<td>0.74452</td>
<td>0.000</td>
</tr>
<tr>
<td>legal responsibility</td>
<td>315</td>
<td>3.7079</td>
<td>16.77</td>
<td>0.74921</td>
<td>0.000</td>
</tr>
<tr>
<td>moral responsibility</td>
<td>315</td>
<td>3.7175</td>
<td>14.985</td>
<td>0.84977</td>
<td>0.000</td>
</tr>
<tr>
<td>altruist responsibility</td>
<td>315</td>
<td>3.5556</td>
<td>12.691</td>
<td>0.77691</td>
<td>0.000</td>
</tr>
<tr>
<td>Organizational commitment</td>
<td>315</td>
<td>3.7194</td>
<td>17.552</td>
<td>0.72742</td>
<td>0.000</td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>315</td>
<td>3.5913</td>
<td>13.176</td>
<td>79647/0</td>
<td>0.000</td>
</tr>
<tr>
<td>Customer-orientation</td>
<td>315</td>
<td>3.7270</td>
<td>18.468</td>
<td>0.69866</td>
<td>0.000</td>
</tr>
</tbody>
</table>

DEDUCTIVE TEST

Table 6: Variables subject in model

<table>
<thead>
<tr>
<th>Variable</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economical responsibility</td>
<td>ECCSR</td>
</tr>
<tr>
<td>legal responsibility</td>
<td>LCCSR</td>
</tr>
<tr>
<td>moral responsibility</td>
<td>ETCSR</td>
</tr>
<tr>
<td>altruist responsibility</td>
<td>PCSR</td>
</tr>
<tr>
<td>Organizational commitment</td>
<td>OC</td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>JS</td>
</tr>
<tr>
<td>Customer-orientation</td>
<td>CO</td>
</tr>
</tbody>
</table>

RESEARCH MODEL IN MEANINGFUL NUMBERS
Using this could find meaningful relationship between research variables. In this status numbers are meaningful that is out of \((-1/96, 1/96)\). It means it’s meaningless between \(1/96, -1/96\).

Study of model test indirect: At follow study tested model indirect effect.

<table>
<thead>
<tr>
<th>Indirect coefficient</th>
<th>Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.14</td>
<td>Customer-orientation ← job satisfaction ← Commitment ← economical</td>
</tr>
<tr>
<td>0.27</td>
<td>Commitment ← legal responsibility</td>
</tr>
<tr>
<td>0.26</td>
<td>Commitment ← moral responsibility</td>
</tr>
<tr>
<td>0.40</td>
<td>Commitment ← altruist responsibility</td>
</tr>
</tbody>
</table>
As above table altruist social responsibility indirect effect through organizational commitment and job satisfaction on tendency to client is more than others.

CONCLUSION AND SUGGESTIONS
At first hypothesis studies social responsibility economic dimension effect on organizational commitment, results showed that its effect is positive and meaningful, so in 95% reliability verified first hypothesis. Its effect rate on organizational commitment is 0.17. This is accordance to Song et al, (2015) results. At second hypothesis studies legal dimension. Results showed that it has positive and meaningful effect so in 95 % verified second hypothesis. Its effect rate on organizational commitment is 0.32. This result is accordance to Song et al.

At third hypothesis studies moral dimension. Results showed that moral dimension has positive and meaningful effect on organizational commitment. So in 95% reliability verifies third hypothesis. Its effect rate is 0.33. This result is accordance to Song et al, (2015) results. At fourth hypothesis studies altruist dimension effect that results showed that its effect is positive and meaningful. So in 95% reliability verifies fourth hypothesis. Its effect rate is 50%. This result is accordance to Song et al, (2015) results. At fifth hypothesis studies organizational commitment effect on job satisfaction. Results showed that it has positive and meaningful effect. So in 95% reliability verifies fifth hypothesis. Its effect rate is 0.89. This result is a accordance to Song et al, (2015). At sixth hypothesis studies job satisfaction effect on tendency to client. Results showed that reliability verifies sixth hypothesis. Its effect rate is 90%. This result is accordance to Song et al, (2015), Lee et al, (2013) and Jafari and Mehrabian (2015).

REFERENCES


THE EFFECTS OF APPLYING COMMUNICATION TOOLS BASED ON CONNECTIVISM THEORY ON STUDENTS’ ACADEMIC ACHIEVEMENT AND THE VALUE OF THEIR ENGAGEMENT

Leili Lajmiri
M.A in Educational Sciences, Instructional Technology, Faculty of Psychology and Educational Sciences, Islamic Azad University, Tehran South Branch
LajmiriLeili@yahoo.com

ABSTRACT
Today, with the increase in communication means and their impact on learning, educational environment is changing. The aim of the present study was to investigate the use of communication tools based on connectivism theory on students’ academic achievement and the value of their engagement. The statistical population of the study consisted of the students studying as sophomore in high school, district 3, Tehran City. In this study, sampling method was “available sampling” and two 15-students classes formed the experimental and control group. This research was based on a quasi-experimental design, pretest, posttest, and follow-up with the control group. The experimental group was treated by teaching chemistry through a website while the control group was treated by teaching chemistry traditionally. The treatment continuously lasted for three days a week for a semester. The tools to gather the required data include survey test of students’ engagement in high school and the questionnaire prepared by the researcher for chemistry lesson. ANOVA test with repeated measures was used to analyze data. The results obtained indicated learning stability and confirmed there was a significant difference between students’ scores in different time periods of measurement in experimental group and. According to the results, teaching by the use of communication means in addition to showing a significant difference with the traditional method of teaching has a positive and significant effect on chemistry lesson; however, no significant differences were seen in students’ engagement in the two groups.

Keywords: communication means, connectivism theory, students’ engagement, learning

INTRODUCTION
Great changes in technology and knowledge were occurred in the last centuries especially in the last few decades. The scope of these changes has run modern societies of education system into new challenges. Researchers and trainers in response to new conditions have come up with variety of theories and models to solve the new challenge. In 2004 Siemens drew the world’s attention into a new paradigm to meet the challenges of the digital age by introducing connectivism theory. He believes that connectivism theory is a proper and timely response to the present situation of society and its current technologies.

In connectivism theory, knowledge is distributed within a network of people and things and learning is the process of connecting, growing and directing the networks (Siemens, 2004). Today, teaching space is changing due to the growth of communication means and their impact on learning. Research findings suggest that each of these communication media can alone have effects on students’ learning and engagement. For example, Miller (2011) has shown that the use of social networking tools increases interaction in learning, collaborative learning and the skills of the 21st century. In a study conducted by Lei, Krilavicius, Zhang, Wan and Man (2012) on using web to promote learning in higher education, it was shown that teaching using web technologies facilitates teaching and learning. Using social networks like Facebook to share content, experiences and news related to a course, as well as the website are considered as collaborative tools to write ideas can support training in tech courses. According to the variety of communications media, today new challenge in educational
Connectivism theory is the learning theory in digital age and Siemens’ goal (2006) is to apply technology capability in teaching and learning in the field of e-learning. And learning in connectivism theory based on informal processes, organizing in the network and supporting through electronic tools which causes increased collaborative activities, development of social-personal network, continuous practices of connection and development. Since connectivism theory is being developed, it seems essential to implement functional studies on efficiency test of the theory in objective conditions; therefore, the current study aims to investigate students’ development and their engagement in the learning process through a quasi-experimental study and determining the effect of one of the communication media (website) in line with an educational purpose units and teaching a specific subject by applying the principles of connectivism theory. Therefore, it can be said the aim of the present study is to demonstrate the use of the theory in educational environments.

Student’s engagement means their desire and need to participate in the learning process and promote higher-level of thinking to understand success (Bandaranaike and Willison, 2011). Connectivism is a staging perspective about individuals facing knowledge and reviewing it in the form of networking or ecology. Connectivism involves the following stages: awareness and receptivity, connection forming, contribution and engagement, pattern recognition, meaning making, praxis (Siemens, 2006). Since the present era is called the digital epoch, due to increased means of communication and students’ dependence to the tools, learning environment should be removed from the traditional mode and in run accordance with the current era.

Education (in two levels: with communication media and without communications media in the traditional way) is considered as the independent variable and student’s achievement in chemistry and students’ engagement as the dependent variable. In this study the experimental group was taught through website and the control group was taught without website and in the usual way.

**RESEARCH THEORETICAL FOUNDATIONS**

**KNOWLEDGE AND LEARNING IN THE DIGITAL AGE**

Changes have little effects in society as long as they have no significant weight and strength. The concept of knowledge we have in mind, and consider it fixed, organized and defined by experts is changing and is gradually being replaced with more dynamic and multi-dimensional view (Siemens, 2006). These broad changes had a negative impact on knowledge and maintaining its previous structures. Libraries, schools, business centers have been under heavy pressure change as generators and the society consolidation (Siemens, 2006). New epistemology and ontology theories have been formed; we experience the life in a blending form; we see, think, and act in communication platform. Neither life nor knowledge is separate activity. Knowing is the rich and interwoven part of our universe (Siemens, 2006). In a general view, knowledge is historically defined or categorized in two forms: qualitatively or quantitatively. A new epistemology is needed which has more inclusive or at least develops the view to the today’s world. Today, knowing and learning is defined by communication. The claim of connectivism is that learning is essentially networking process (Siemens, 2006).

**COMMUNICATING KNOWLEDGE AS THE FOUNDATION OF EPISTEMOLOGICAL THEORY**

Connectivism was introduced by Stephen Downes. Features of an entity should be converted or redirected to the features of another entity so that they can be considered connected ones. The
knowledge gained through such relationships is communication knowledge (Siemens, 2006). Communication knowledge network has 4 features:

1. **Diversity**: in the process of communicating knowledge as much as possible different points of view are included.

2. **Autonomy**: people arbitrarily and on the basis of knowledge, value and their decision, participate in the interaction or take command from some foreign institutions looking to expand a particular point of view.

3. **Interactivity**: the knowledge generated is the result of interaction between members. Also, it is merely collecting different perspectives.

4. **Openness**: there is a mechanism that allows a particular point of view to log in a system so that it can be heard to interact by others (Siemens, 2006).

**CONNECTIVISM THEORY**
Connectivism is a theory that describes how learning happens in digital age. This theory was first introduced by Siemens in 2004. The reason for this introduction was the fact that the new learning theory was for digital age because studies on traditional learning theories were conducted in a time when networking technologies had not been developed. At the time when the knowledge growth was high and technologies were replaced with people in many basic tasks, learning has been changed as well. Connectivism is rooted in the fact that decisions are based on foundations highly changing. In today’s world, the age of knowledge is short and finishes as soon as possible. Educational courses have static nature; publishing date of textbooks comes back to the years before the time to use those (Siemens, 2006). Connectivism theory includes 9 basic principles as follow:

• Learning and knowledge need diverse perspectives to provide an overall and makes it possible to select the best approaches.

• Learning is the process of forming a network of specific nodes communication or information resources.

• Knowledge is located in networks.

• Knowledge may be living in non-human equipment and that Learning is facilitated by technology.

• More capacity of perception is more important than knowing what is known now.

• Learning and knowledge are permanent processes not a state or final product.

• Today, the ability to see relationships and identify patterns, and creation of meaning between fields, ideas and concepts, are individuals’ skills fundamental.

• Updating (receiving correct and up to date knowledge) is the goal of all connectivism learning activities.

• Decision making is learning. Selecting what to learn and the meaning of input information are observed through an opening of a changing fact. While a response is correct today, it may be false tomorrow due to the changes occur in information atmosphere affecting decision (Siemens, 2006).

**STUDENT'S ENGAGEMENT**
Fredricks, Mccolskey, Meli, Mordica, Montrosse and Mooney (2011) knew the learner’s engagement as cognitive interaction such as students’ investment in learning stability against the challenges and using the depth instead of level strategy. Chapman (2003) also defined the learner's engagement as their willingness to participate in school activities including attendance, presentation of needed work.
and cooperating with teachers in classroom. Fletcher (2005) defined the learner’s engagement as increasingly and significantly students’ participation throughout the learning environment including participation in curriculum design, classroom management even school buildings. Connell (1990) involved emotional-conceptual aspects in and students’ engagement and interaction. The emotional aspects are the sense of belonging, interest and enjoyment. Markwell (2007) knew students’ engagement as their participation in the activities of a school, college, and university whose advantage is students’ focus on curriculum studies. Bandaranik and Willson (2011) defined students’ engagement as their willingness and needs to join in learning process and promote higher-level thinking to understand success.

**REVIEW OF LITERATURE**

Eskandari, Fardanesh and Sajadi (2009) indicated that connectivism theory as new partner of new learning theories not their replacements can have guidelines and many applications especially for e-learning in web space 2.0. Garcia, Brown and Elbeltagi (2013) also in a study in the field of case study using collective blog based on connectivism theory for teaching and learning activities of the students studying in an institution in the UK indicated that from connectivism theory as learning theory in digital age, some of the theory elements can be regarded in group’s engagement for the activities; however, this attitude is not seen in all groups engaging in the project.

Wang (2014) in his study showed that constructive instructional strategies play an important role in the high level of students’ satisfaction and success of the course. When the course is implemented online, it is more effective than classroom. This study showed that using the online e-learning, courses can be carried out successfully and also causes more interactions and satisfaction of the students and teachers. Fonesca (2011) in his study about the learning experience on training camp provided by education system of Colombia in 2007 to create individual learning environments based on the emerging concepts such as e-learning of web 2.0 as well as connectivism, showed that designing educational technology workshops can be beneficial to develop lifelong learning and interaction on social networks that reflect the learning process. Mahmoudi, Fathiazar and Esfandiari (2009) studied the effect of students’ active participation during teaching with their academic achievement. To investigate this, 60 classes of third grade in high school (30 classes with girl students, 30 classes with boy students) from three fields of literature and humanities, mathematical-physics and natural sciences from the five areas of the city of Tabriz were selected by multistage random sampling method then based on the Flenderz verbal communication analysis system, the frequency of ten factors were calculated. The results showed that there is no significant difference between boys and girls in the active participation in the teaching process, but it is positively correlated with academic achievement.

Stainies and Lauchs (2013) also did research on student’s engagement and the results showed that students use Web 2.0 technology primarily for social goals and not as a means to engage more with their scientific content. This study investigated a group of students who can use Facebook created by University of Technology in Brisbane, Queensland, Australia. The study also showed that students had less participation and interactions with site scientific content but their interaction abilities in analyzing non-scientific content and critical view toward non-scientific content were increased. This study also in alignment with other studies in this field showed that students use Facebook as a communication medium to enhance communication with their peers. In a study conducted by Happel, Park and Mcbride (2013) also open students response system was used to interact with students. Statistical population of the study was students in the eighth grade. The sample was selected in class of 16 students for algebra. Data analysis was performed through independent t-test and post-test were taken after 4 weeks of training. The results showed that the interaction of students who had used this system to teach algebra had a significant increase compared to the students who had passed the course with the traditional way.

**RESEARCH GOALS**
The aim of the present study was to investigate the use of communication tools based on connectivism theory on learners’ engagement in high school, district 3, Tehran City in academic year of 2014-2015. It is evident that providing practical strategies are also in the context of this study.

**RESEARCH QUESTIONS AND HYPOTHESES**

**RESEARCH QUESTIONS**
1. Do communication media affect students’ academic achievement?
2. Do communication media affect students’ engagement?

**RESEARCH HYPOTHESES**
H1: Communications media such as websites increase the students’ engagement in the learning process.

H2: Communications media such as websites have a positive impact on the academic achievement of students in chemistry.

**METHODOLOGY**
This study is quasi-experimental based on a design of pre-test and post-test with two experimental and control groups were implemented. The statistical population of the study consisted of the girl students studying as sophomore in high school, district 3, Bamdad e Parsi Educational Complex, Tehran City in academic year of 2014-2015. In this study, sampling method was “available sampling” and two 15-students classes studying chemistry formed the experimental and control group. Before applying the independent variable in the experimental group, the questionnaire prepared by the researcher for chemistry lesson questionnaire was given to the two groups as pre-test. Also the survey test of students’ engagement in high school was given to the two groups. The experimental group was treated by teaching chemistry through a website while the control group was treated by teaching chemistry traditionally without exposing to the website. The treatment continuously lasted for three days a week for two months. The two groups were again given the questionnaire prepared by the researcher and the survey test of students’ engagement in high school as the training course finished. The following tools were used in the present study:

**SURVEY TEST OF STUDENTS’ ENGAGEMENT IN HIGH SCHOOL**
The survey test of students’ engagement in high school was designed by Evaluation Center at Indiana University in America and has been implemented from 2006 to 2013 on 400 thousand students in 40 states of America. This test has 31 items, each one has some options with a few sub options and this survey also assesses three emotional, behavioral, and cognitive dimensions and students’ and school’s interactions. Echeverria (2004) conducted the survey in five public schools in Virginia America and studied its internal consistency with coefficient Cronbach alpha. The results of this study revealed that Cronbach alpha coefficient of the three emotional, cognitive and behavioral dimensions respectively are 0.90, 0.83 and 0.81. In the present study to determine the validity of the instrument it was first translated into Persian then to ensure the translation it was changed into English again, correctly translated from Farsi were translated into English and then its reliability based on the calculation of Cronbach alpha coefficient was 0.68 and in subtests were from 0.65 to 0.87. The survey test of students’ engagement in high school was implemented with 30 items for 35 minutes. For scoring, Likert scale from 1 to 4-point scoring was used to transform qualitative responses to quantitative responses. Finally the students were divided into 4 groups based on the scores obtained: students who have no interaction or engagement with school; students who have limited engagement; students who have moderate engagement; and students who have high engagement with school. The questionnaire included 20 multiple-choice questions on the second grade of high school chemistry. For the validity and reliability of the tools, first based on the target table of the chemistry lesson content, 50 multi-choice questions were designed and implemented on a sample of 50 students (outside of the sample).

After its implementation, 8 questions that had no certain features were omitted. Among the 42 questioned remained, 40 questions with suitable difficulty coefficient (0.557 to 0.731) were chosen.
After selecting the appropriate questions, 5 chemistry teachers with more than 10 years of teaching experiences evaluated the questions and reported the proper questions. Cronbach alpha coefficient was 0.79 indicating suitable internal consistency. Then two sets of questions (20 questions each) were determined and implemented as pre-test in the experimental and control groups and their scores were calculated. The results of correlation coefficient of the test divided into two halves was equal to 0.81. The correlation of post-test results with pre-test was 0.68 which is considered as proper validity for the chemistry achievement test made by the researcher. Finally, the results of the academic achievement test and students’ scores in chemistry were 0.53 indicating suitable construct validity of the researcher made test. The academic achievement test with 20 questions was conducted within 15 minutes and each question had one score. The students’ scores were the correct responses they had and the test had no negative scores.

WWW.CHEMICAL-SCHOOL.COM

The above website has the properties including educational films, photos, PowerPoint presentations, questions sets and materials for third chapter of chemistry lesson. The experimental group had the opportunity to visit the site and use it. After compilation and designing the website, the material on the site were reviewed by three of the teachers as a group (by Focus Group method) and they correct the site content, appearance, problems and quality and finally confirmed the reliability of the materials in the website. The students in the experimental group were asked to visit the website using the username and password given to them and were taught chemistry through the website. Since connectivism theory has 9 basic principles, it was tried to apply them in designing the website. Afterwards, the students were asked to watch educational films and PowerPoint and at the end respond to relevant questions. Then the two experimental and control groups were given post-test in the classroom to assess their academic achievement and engagement.

FINDINGS

The mean and standard deviation of students’ academic achievement in chemistry in both experimental and control groups in pre-test, post-test and follow-up were shown in table 1.

Table 1: Summary of descriptive findings of pre-test and post-test scores in experimental and control groups

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Follow up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Experimental group</td>
<td>16.67</td>
<td>1.718</td>
<td>18.67</td>
</tr>
<tr>
<td>Control group</td>
<td>16.70</td>
<td>1.710</td>
<td>17.60</td>
</tr>
</tbody>
</table>

According to the mean scores in experimental and control groups, it is observed that the post-test score was increased in the control group while this increase is very small compared to the differences in the experimental group. Although this difference may be due to training in two groups but it may also due to the repetition effect. In the follow up, a minor decrease in scores in the experimental group compared to post-test was seen. But again the follow-up scores differences compared to the pre-test scores is significant. To investigate the effect of training by communication media, ANOVA test with repeated measures were used. For the difference between this method and the traditional method of teaching without communication tool, the mixed ANOVA test between-within subjects were used and the result achieved because of the independent variable. The results indicate normal distribution of data in posttest. Shapiro-Wilk test was used to ensure normality (Table 2).

Table 2: Summary of Shapiro-Wilk test of data distribution normality
According to Shapiro-Wilk test results it can be seen that all the sig in the groups are more than 0.05 and the results are not significant, thus the assumption of normality is not violated. Data distribution is normal and provides the use of parametric tests. To evaluate the effectiveness of training using communication tools (website) analysis of variance with repeated measures was used. The results indicated a significant effect for time with large effect sizes (F (13.2) = 30.902, P<0.0005, Wilk's Lambda= 0.826).

The results showed significant differences between the scores of chemistry lessons in different periods of time measured in the control group and the learning stability; therefore, teaching method using the communication tools had a positive and significant effect on learning chemistry with large effect sizes. To examine the differences between the groups, two by two comparison and subtracting the average results are shown in table 3.

**Table 3: Summary of groups’ comparison**

<table>
<thead>
<tr>
<th>Time 1</th>
<th>Time 2</th>
<th>MD (1-2)</th>
<th>SE</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>Post-test</td>
<td>-2.000</td>
<td>0.276</td>
<td>0.000</td>
</tr>
<tr>
<td>Follow up</td>
<td>Post-test</td>
<td>-1.677</td>
<td>0.374</td>
<td>0.001</td>
</tr>
<tr>
<td>Post-test</td>
<td>Follow up</td>
<td>0.333</td>
<td>0.159</td>
<td>0.166</td>
</tr>
</tbody>
</table>

* P< 0.001

The results showed a significant difference between pretest and posttest mean scores, as well as pretest and follow-up (table 3). In other words, this difference reflects the effectiveness of training with communications tools that due to maintaining the results in the follow-up, it means that learning has been steady. Comparing post-test and follow-up results it can be seen though the results were had minor decrease, but there is no significant difference between these two stages, it also confirms the appropriate effectiveness of the independent variable. To examine the differences in effectiveness between the two educational methods, mixed ANOVA test of between-within subjects was implemented. Before analyzing the test results its hypothesis were determined.

To study the homogeneity of variance, which is the basic assumption of all ANOVA, first F Levene value in both times was measured. According to the results shown in table 2 the F value is not significant and the assumption of homogeneity of variances is not violated.

**Table 4: studying the homogeneity of groups’ variance in both pre and posttests stages**
The main hypothesis of mixed ANOVA test of between-within subjects is the equality of correlations between several variables. For each variable level between subjects, the pattern of mutual correlations between variable levels within subjects should be the same. This hypothesis is tested using Box's M statistics and due to the sensitivity of the statistics more reliable level of alpha (P<0.001) is used. The results of Box statistics achieved (Box's M= 3.844, F= 1.182 with degrees of freedom df1=3 and df2= 141120.000 and sig= 0.315) indicates no violation from the main hypothesis, because due to sig= 0.315 which is more than 0.001 this statistics is not significant. Since there was no violation from the main hypothesis the mixed analysis of variance was performed between-within subjects (table 5).

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>0.014</td>
<td>1</td>
<td>28</td>
<td>0.908</td>
</tr>
<tr>
<td>Post-test</td>
<td>1.105</td>
<td>1</td>
<td>28</td>
<td>0.302</td>
</tr>
</tbody>
</table>

Table 5: the results of mixed analysis of variance test between-within subjects (SPANOVA)

<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>sig</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>30.817</td>
<td>1</td>
<td>30.817</td>
<td>67.062</td>
<td>0.000</td>
<td>0.705*</td>
</tr>
<tr>
<td>Time*group</td>
<td>4.817</td>
<td>1</td>
<td>4.817</td>
<td>10.482</td>
<td>0.003</td>
<td>0.690*</td>
</tr>
<tr>
<td>Error</td>
<td>12.867</td>
<td>28</td>
<td>0.460</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

E 2 ≥ 0.14

Eta coefficient equals 0.705 with the value of sig= 0.000 (in fact it means P<0.0005); therefore, the effect of time is statistically significant and it can be concluded that there were significant differences in chemistry scores between two different periods of time. According to Cohen criterion (1998), that the effect size with more than 0.14 (explaining 14% of the variance) is considered a large effect size, the effect size of 0.705 is large value therefore the main effect of time is significant. Before studying the main effects, the interaction effects should be evaluated to answer this question whether there has been the same change in two different groups’ scores over time? For this purpose, Wilks' Lambda statistics from Multivariate test was used. According to the results, the interaction effect between time and group is significant (significant Level in Wilks' Lambda (sig=0.03) obtained which is less than the alpha level of 0.05). Interaction significance indicates that the effect of one variable (grouping) is affected by the level of second variable (time), despite the interaction between variables the diagram of interaction level between groups were investigated. Results showed an increase in both experimental and control groups scores in chemistry in two time periods of pretest and posttest, in fact grouping variable is affected by time but the increase in the experimental group with more linear gradient than the control group was carried out. The difference of pre and posttest scores in experimental group is more than control group. Therefore, t test of the two independent groups was used to investigate the difference between the two educational methods. According to the results of t test of the two independent groups (sig= 0.006 and t = 2.978) the difference significance of the two groups was shown. The following formula was used to determine the effect size of grouping.

\[ \eta^2 = \frac{t^2}{t^2 + (N1 + N2 - 2)} \]

By placing t value in the formula of effect size, communication tools for the way to use was calculated 0.241. According to Cohen criterion (1998), the effect size of 0.241 is a little more. As a result, there was a significant difference in the two methods of education using communication tools (website) and traditional way and the method of teaching using communication tools has a significant effect on learning chemistry.
Table 6: Summary of Shapiro-Wilk test of data distribution normality

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>15</td>
<td>0.469</td>
</tr>
<tr>
<td>Control group</td>
<td>15</td>
<td>0.014*</td>
</tr>
</tbody>
</table>

*P<0.05

The significant results in control group showed violation in the normality hypothesis. Data distribution is not normal and the use of parametric tests is not provided, as a result, to compare the scores of students’ engagement U Mann-Whitney nonparametric test was used. The results of U Mann-Whitney nonparametric test indicates no significant differences between the two groups (sig=0.345 and Z=0.975 and U=89.000). Although there is a difference between the mean of experimental group (M=271.80 and SD=20.960) and the mean of control group (M=275.33 and SD=24.383) but this difference is not significant. By reviewing the results of mixed analysis of variance test between-within subjects and Eta coefficient obtained for the research variables as well as the results of t test of the two independent groups the following points are important: the results of mixed analysis of variance test between-within subjects for the variable of time in both groups, teaching using traditional way and communication tools ($\chi^2=0.705$ and $F=60.602$) showed that the time effect was positive and significant. According to Cohen criterion the effect size of 0.705 is a little more therefore teaching through the two methods had positive and significant effects. Also, referring to the results associated with grouping and time it was seen that there was a significant interaction between the two variables resulted in the effectiveness of a variable effect (grouping) by a level of the second variable (time). For this reason the diagram was referred to interpret this interaction and it was seen in the experimental and control groups the scores were increased but this increase in experimental group had a positive and significant difference with control group. The t test of the two independent groups was used to compare the difference of effectiveness of two methods and the results obtained confirmed the significant difference of the two educational methods. In addition to the difference between the two groups, by replacing the t value mentioned in the formula, the effect size was calculated for teaching methods using communication tools, Eta coefficient for this method is 0.241. According to Cohen criterion, the effect size of 0.241 is acceptable and a little more. According to the results, training using communication tools in addition to the significant difference with traditional instruction had positive and significant effect on learning chemistry. According to the results, no significant differences were seen in students’ engagement in the two groups.

DISCUSSION AND CONCLUSION

This study was conducted with the aim to determine the effectiveness of communications media such as websites on students’ academic achievement. The results of analysis of variance with repeated measures showed that training using communication tools is an effective method to increase learning and retention of the learned material in chemistry lessons. The results of the study are in line with Badri et al. (2010) who showed that the use of ICT in teaching chemistry plays an important role. The findings of the current study are in line with different studies by Ebrahimi et al. (2012); Eskandri et al. (2009); Chio and Wang (2008); Sarika and Caves (2008); Soltan Mohamadi (2010); Shahsavari Esfahani, Mosali Nejad and Sajanian (2010); Ghareh Baghi and Negoin (2009); Garsia et al. (2013) Gilbert (2011); Li, Krilavisios, Gang, Van and Man (2012); Miler (2011); Wang (2014) who confirmed the effectiveness of training using communication tools on increasing learning. Badrian et al. (2010) in a study confirmed that applying ICT in teaching chemistry plays an important role and the proposed pattern (field-oriented) is highly validated according to the teachers of chemistry and experts. The purpose of this study was to compare two methods of teaching, teaching by the use of communication tools and using traditional teaching method, also the effectiveness of the teaching methods conducted using mixed ANOVA test between-within subjects. According to the results obtained from the current study, it was seen that the teaching method using communication tools had more effectiveness compared to teaching without communication tools and its effectiveness was a
little more and significant. The findings are in line with other studies by Ebrahimi et al. (2012); Banister et al. (2008); Hatami et al. (2009); Shahsavari Esfahani, et al. (2010); Karami et al. (2009); and Wang (2014).

In the study by Li et al. (2012) about using web to improve learning in Higher education, it was shown that teaching by the use of web facilitates the learning process; using social networks like Facebook to share content, experiences and news of an era, and a website as a common tool to write thoughts and beliefs can cause support in teaching tech courses. However, Carmen et al. (2009) carried out a research aimed at preparing teachers to use web-based teaching; they showed that although the teachers prepared the content of the web based on the materials written for learning before teaching, but they traditionally selected the learning materials in web and their order and sequence is the same as traditional method and had problems with leaning materials in web in terms of interaction and format.

To test another hypothesis of the study about the effectiveness of teaching using communication tools on students’ engagement, the t test of the two independent groups was used. The results did not confirm this hypothesis. This result is similar to findings Estaniz et al. (2013), Garcia et al. (2013). Estaniz et al. (2013) in their study showed that students participate and interact less with established scientific content site, but their interaction ability to analyze unscientific content and communicate with peers increases. Some elements of connectivism theory as a theory of learning in the digital age could engage a number of students in the learning process, but interacting and engaging the most students did not materialize (Garcia et al., 2013). However, the results obtained are not in line with some other studies (Mahmoodi et al. (2009); Happel et al. 2013). Although the results obtained have been inconsistent in different studies and the findings of this study did not confirm the hypothesis mentioned, but according to the researcher’s observations several points are noteworthy. Students’ high motivation to learn, great the enthusiasm to start teaching despite the fact that the hours of training were in final hours when students were at school, being active while teaching, a great desire to use teaching methods using means of communication with other subjects in the curriculum showed students' engagement and interest in teaching which do not comply with their follow-up survey results.

Given that the survey was translated into Persian by researcher for the first time and also because of the lack of widespread implementation, for the validation of this survey, the inconsistent results with the researchers’ observations requires thinking. Also, the use of communication media for effective teaching requires educational environments with the facilities necessary for students' use. Of course there are many factors in the failure to achieve this, including educator due to changes in teaching methods and lack of coordination with participatory training methods as well as the learners’ constant presence in the classroom, space was not appropriate to engage the learner in the learning environment. Lack of adequate hardware facilities at school was among the limitations of the present study. The other limitations of the study, lack of high-speed Internet to perform the desired method of education, limiting the training for two months due to preventing the students to be treated for more time by school authorities, and lack of full access to the engagement survey guidelines because of the sanctions imposed were among the main limitations of the study. Also small statistical population and small sample size and implementing it on one material are the other limitations of this study which makes the generalization of its results possible by following the precautions. Conducting research as an experimental project, implementing on a sample with both sexes and more statistical population, making the students’ engagement survey softer before conducting new research are the suggestions that by including them in future research, greater generalization capability with good results can be achieved.

REFERENCES


THE ROLE OF SUSTAINABLE ARCHITECTURE IN VALUABLE HISTORICAL DISTRICTS OF TEHRAN (A CASE STUDY OF SUSTAINABLE RESIDENTIAL DEVELOPMENT IN SANGLAJ DISTRICT)

Mahdi Makari Faraji
PhD of Architecture, Department of Architecture, Dubai, Islamic Azad University, Dubai, United Arab Emirates

Eskandar Mokhtari Taleghani
PhD of Architecture, Department of Architecture, Dubai, Islamic Azad University, Dubai, United Arab Emirates

Mahdi Makari Faraji
MSc of Architecture, Department of Architecture, Dubai, Islamic Azad University, Dubai, United Arab Emirates

Mahdi.f60@gmail.com

ABSTRACT
In this paper we study the role sustainable architecture in valuable historical districts of sangalj in city of Tehran. Different aspects of architecture were studied in this paper. Results show that contemporary architecture has an important effect on the face of building in Tehran. Furthermore the modern architecture in valuable city textures is one of challengeable issues in modern architecture and renovation in Iran. The old textures of Tehran are faced to severe structural erosion and social decline because of backwardness from city evolution and development. Social problems that are the result of these erosions cause the escape of local residents and replaced with other citizens that not believe there as their living place.

Keywords: City evolution, sustainable architecture, sangalj, Social problems.

INTRODUCTION
Sustainable architecture as well as other important issues in architecture involves the particular principles which this alone includes the factors such as storage of resources, designing to return to the life cycle and design the sustainable architecture for the humans with particular strategies. It could be stated that in modernism and modernization eras, Iranian architecture may not played its distinctive role-consequently no changes have been manifested in Iranian architecture in these eras (Arnason, 1376pp5). The application of contemporary architecture in valuable urban textures is a question which it is used in most of the countries in worldwide. For this, previous experiences show that whether the contemporary architecture has faced the indifferences or has it faced the negligence?" Iran is one the countries which joined to the committee to support the cultural and natural heritage. It seems that the noticeable samples may be observed in contemporary architecture in Iran which all these samples could be well-known in worldwide sample in near future. Green construction-Sustainable building refers to a structure and using process that is environmentally responsible throughout a building's life-cycle: from sitting to design, construction, operation, maintenance, renovation, and demolition. Actually the perception of an environment by the inhabitants in a neighborhood affects the relation of them with the environment and the level of their satisfaction (Sylvie Faucheux, 2007).
It is argued that the characteristics of the person and their relations with each other are important factors determining residential satisfaction. Satisfaction is considered as one of the main characteristics of residential environmental assessment and so it was defined- “high quality environment”. Thus, it is believed that satisfaction is the very general characteristic to assess perception of environmental quality (Apliard, 1382).

Bauer has announced in his study that urban sustainable architecture could lead to the advancement of life quality in urban structure by which the advancement of environmental quality observes (Bauer, 2010).

Ghobadian stated in a research that individuality in selecting a place for living has become common in developing countries, in such a way that everyone with a better income choose better places for living as well by which quality of life and more convenience would be realized. Environmental quality can define as a larger concept of “quality of life”; combining of basis qualities as health, safety with aspects of welfare and grace (Ghobadian, 2009).

Pank stated in his research that a city constructed with sustainable architecture has been taken into account the objectives of sustainable architecture by which aspects of quality and especially satisfaction of residents involving livability, living quality, living environment, quality of place, residential-perception and- satisfaction, the evaluation of the residential and living environment, quality of life and sustainability would be realized (Pank, 2002).

Pellihad come up with the point that today, the quality of architecture has become a concerning for architects which it is observed with the titles "sustainable architecture" and "Green architecture" (Pelli, 1994).

In present paper, the architecture of Sangalaj hall in Tehran has been perused.

QUESTIONS
Have the Sustainable architecture applied in historical places regarding the social and cultural relations and also climatic changes?

Have the adjacent areas in Tehran located in historical places regarding the sustainable architecture?

Sustainable architecture has to be applied in the well-known historical places which with regard to social and cultural relations and also climatic changes, this would be possible.

With regard to sustainable architecture, we could design and construct the adjacent areas in Tehran locating in historical places.

METHODOLOGY
According to the issue of a research in any academic research, selection of an appropriate method is a very important issue by which a key concept relevant to a discussion of research methodology is that of validity. By a method in the research, the aims of the research would be realized. Therefore, defining scientific method means representation of fundamental guidelines which is important in any research. There are various methods in social science including field and documentary method, which in present paper the documentary method has been used for data collection in the overview of literature section (Campbell, 2001).

It has to be taken into consideration that any research has to be started from a point which this brings about several questions in researcher’s mind by which the hypotheses would be represented, so that providing study and searching to prepare responses for the questions mentioned in the research and in order to get the conclusion would be the important duty undertaken by a researcher, which through the data collection this would be possible. The stage for data collection is the beginning of a process in which
the researcher collect the field and library studies, and after that through the inferential method, his categories and analyzes them the assessment of hypotheses would be realized. It could be said that after these stages, the responses would be provided.

Case study research method
This research is in fact of the quantitative type and is performed through phenomenology and case study in which taking measures to reply the research questions is possible, and also in present paper an operational sample is created to present the preliminary plan.

The research type is practical, and the strategy of this research is the inferential. In this method, through tangible methods the data is collected, analyzed and developed then. This research is performed through the descriptive approach including evaluation of viewpoints and opinions. The data are collected through the methods of questionnaire, interview or observance. In this process, information and data are purified through both theoretical and experimental methods in order to draw out the necessary results. Through the descriptive and comparative methods, the obtained data could be observed by two following factors are essential.

The Method for Data Collection
This method has been used for data collection in the field of overview of literature, which within studying the books, paper and researches accomplished by other authors and surfing the net, the data collection would be provided. Along this, the library method and asking help from specialists who accomplished helpful studies in this field were taken into account as the first stage in this research. For instance through the study accomplished by Sassi, it could be concluded that within the increase of problems in modern world, sustainable structures were taken into consideration in developed countries. While in developing countries like Iran, the methods was implemented to reduce the social, cultural and environmental matters, which in this case economic consequences would be realized? The topic “sustainable architecture” is not a serious matter in our country (Iran), but a new method “green building” introduced in Iran which many people are persuaded to apply this method in their life. The way to implement and apply the method “Green building” has been involved in the strategies represented for sustainable architecture (Sassy, 2008).

Selecting an appropriate method is from the important issues in which the accuracy in the process of selecting could provide the desirable results. Hence, defining a scientific method means defining a fundamental guidelines presented in any research project. There are various methods in a research which we could mention documentary and field study in this case, so that in overview of literature in this research the documentary method was used. Along this, through having a conversation with Atabak Naderi on the basis of sustainable architecture of sangalaj theater, says, applying development architecture on sangalaj is a project which from one years ago taken into consideration. According to the studies accomplished on it, the mayor demanded the reports to do the first observations which subsequently the architecture development on Sangalaj Theater would be realized. In this relation, the artist Atabak Naderi stated that municipality has still being worked on this project which in this case more observations are needed by which the last outlook would be presented. The new director of the Sangalaj Theater is inviting a number of veterans to come on stage to revitalize the old hall in downtown Tehran, which was once the haunt of the lovers of traditional Iranian plays, says, We are currently negotiating with artists who played a key role in the development of the Sangalaj Theater in its early days, and some of them have agreed to perform. We also intend to showcase a clear reflection of the hall’s activities, and to show that it is moving in line with other national Iranian theaters, of which traditional theaters are one subdivision. Naderi was attempted to apply the development architecture on Sangalaj Theater by which on the basis of presentation of the reports about this project, he stated that the exact time is not definite. For this, the mayor has to state his final report. As a matter of fact, we are in hurry for getting results from this project but there is not time limitation for this. In this relation, he stated that the projects accomplished over the years to develop the Sangalaj Theater architecture were the primary projects; in
fact more development projects would be represented for this. Accordingly, the studies accomplished over the years were mainly prepared to show the geographical position of this theater. Furthermore on the basis of establishment of theater, Atabak Naderi stated that this geographical area is the old texture located in Tehran bringing about cultural messages. It could be stated that existence of a museum for theater lovers is desirable; Meanwhile, there are documents in museums which are needed to be kept safe. The documents in the theater belonged to the past periods shown the necessity for the establishment of museum by which the development architecture for Sangalaj Theater has been recommended. It has been stated that Naderi has also talked to Jafar Vali, Jamshid Layeq, Jamshid Mashayekhi, Davud Rashidi, and Bahram Beizaii for this which all of them referred to municipality.

**Data Collection Method**

Data collection is performed through the following methods:

1- Interview through purposeful sampling
2- Observation
3- Documentary
4- Audio and Visual
5- Acquired from the virtual space

And the accessible resource for data collection includes:

First Hand Resources

Second Hand Resources

Different books written by internal and foreign authors, different journals relevant with architecture and building construction, using internet to search various resources are other means for data collection.

In first section, interviews are performed with different participants including the designers of sustainable developments, constructers and even in some cases it will be performed with the users of sustainable development. Filling out the questionnaire is also another part which is used for asking opinions.

**Data Analysis**

Descriptive Analysis includes Summarization and classification of data collection through producing and regulating the tables and graphs

We have collected the data in this research using the descriptive analysis method which we categorized them using the indices of descriptive statistics, thereafter we summarized them.

Take permission to exploit from the historical places which through providing the finances from the public and private sectors, the historical places could be renovated.

**RESULTS AND DISCUSSION**

Sangalaj is one of the four neighborhoods of primarily old core of Tehran. It is a neighborhood survived from old time with it primarily structures and has to remain alive in a new big metropolis. This neighborhood is facing with many challenges which are emerged because of mismatch of what objectives over them the neighborhood has formed and what needs now people with new lifestyles expect. Now neighborhoods like this in the literature of planning in Iran are recognized as problematic areas. On the other hand, it was attempted to renovate the architecture of Sangalaj by new orientations of planning in Iran which is shown its new buildings, spaces, streets, infrastructures and etc based on approaches trying
to make environments for new people. This planning maybe affected by modern styles has willing to make it most far from old parts and old styles. According to the modern lifestyles, the evaluation of residential environment quality in these different districts can be indicator of values and qualities of each environment.

Currently , Architects play very important role to use sustainable architecture , this is due to the fact that 50% of energy consumption in all over the world is going to be dissipated Construction coverage involve all the construction components separating outside and inside of the construction. Designing the exterior walls construction techniques and components.

solar rays , temperature , humidity and wind, noise , fire , insect and animals, solar rays , temperature , humidity and wind, noise , fire , insect and animals, second factor, total energy consumption of the green building are The factors for The choice of materials. The choice of materials depend largely upon their properties relative to environmental requirements and their strength. And methods is needed to allow them to be used more efficiently and effectively.

Iranian architecture or Persian architecture is the architecture of contemporary Iran .It has a continuous history from the past up to now Iranian architecture displays great variety, both structural and aesthetic, developing gradually and coherently out of earlier traditions and experience.

The sustainable architecture was more observed in traditional constructions; Sustainable architecture is a general term that describes environmentally conscious design techniques in the field of architecture.

Using the sun’s energy is a better choice which is not harmful for individual’s health. Design with accurate layout helps the citizens to use the solar energy by which the desirable light would be also

**Neighborhoods and districts of Tehran:**

The city of Tehran is divided into 22 municipal districts, each with its own administrative centers. Within these 22 districts, Tehran contains the following major neighborhoods:

Tehran is bound in the north by the massive Alborz mountain range that is stopping the flow of the humid Caspian wind. As a result, thermal inversion that traps Tehran's polluted air is frequently observed. The lack of humidity and clouds makes Tehran a very sunny city.

Case study in this paper are Sanglaj, the neighborhood inside Tehran. Sanglaj is one of the four neighborhoods of primarily old core of Tehran. It is a neighborhood survived from old time with it primarily structures and has to remain alive in a new big metropolis. This neighborhood is facing with many challenges which are emerged because of mismatch of what objectives over them the neighborhood has formed and what needs now people with new lifestyles expect. Now neighborhoods like this in the literature of planning in Iran are recognized as problematic areas.

It has to be taken into account that residential environment quality evaluation in different districts can be indicator of values and qualities of each environment.

Sangalaj quarter since Agha Mohammad khan sat on the throne until decease of Mohammad shah; Sangalaj quarter was located in the northwest and west of the city and was nonresidential area until Naserddin shah era. In this era, some of the nobles of the city and court created gardens this quarter at the end of kingship of Naserddin shah, the uncultivated lands were granted to the people in order that they construct house in there and lack of housing be compensated. Sangalaj quarter was located in the west of old Tehran and it has been mentioned as one of the oldest quarters and undoubtedly, its name is related to the era before Safavieh. This name is seemingly old and ancient. There had been other places in the ancient time that their name had been similar to this name. Sangalaj quarter which had been in Transoxiana that has been in the mountain slope and there had been a ruby mine in the mountain; this
name with this description has been mentioned in Hodoodolalam, but it is not clear that whether it has any relationship with Sangalaj quarter in Tehran regarding derivation. Some of the scholars state that the origin word is Sang Raj and relate it to partitioning water with stones. During second era, from erection of first rampart until Tehran became capital in 1169 Jalali calendar, Tehran city was in the medieval style. The bazaar including various caravansaries, arcades, and passageways and the main passageways linked the quarters to each other; for instance, Gozar Emamzadeh Yahya and Mahaleh Oudlajan end up in Darvazeh Qazvin. The framework of Tehran based on linkage among centers of quarters and city center via linking spaces means main passageway and open spaces. There is little structures such as Gozar Mahaleh Emamzadeh Yahya, Sabzeh Meydan, and some parts of Grand bazaar as public spaces are considered as vestige of mentioned eras. The limitation of Tehran or Hesar shah Tahmasebi end up into Amirkabir Ave, and Imam Khomeini in the north, Rey Ave in east, Molavi Ave in south and Vahdat Islami Ave in the west. With regard to 5th era, from the formation of city and development of the city toward north, it could be stated that the most critical transformations with framework during this era is the conceptual formation called as public building(Administrative, Bank, police, university, school, and etc) which transformed the medieval style of Tehran to modern style. Upon the space of Citadel, Mashq square had been destroyed, and the new ministries have been built as well as instead of a part of Sangalaj which was destroyed, then park shah was built.

From 1929 to 1934 Tehran grows twice in a period of five years. In 1937 the first urban development plan for Tehran was designed. It was highly influenced by the modern movement and international style with an imposing a new road system, wide, tree-lined streets intersecting at right angles upon the old fabric, a Cartesian grid, functional zoning and production of public space. The Royal compound was fragmented. Its buildings, although redeveloped, were to be replaced by a new government quarter, mainly the Ministries of Justice and Finance. The surviving buildings were transformed for other uses like the Golestan Palace, which became a museum (Isesko, 2006). The Sangalaj neighbourhood was bulldozed for construction of the stock exchange building -- which was never implemented due to the Second World War. The ruins remained deserted until 1950, and according to the decision of the Council, eventually turned into the Central Park of the city (Apliard, 2003). This plan was the first intervention plan in the historic inner city. The plan considered the city as a construction site instead of a living creature which not only led to the scattering of the urban structure but also the socio-cultural institutions of the inhabitants. About the plan of Sangalaj quarter in 1896, it could be stated that two gates connected to this quarter in outside of the city, Qazvin gat that Shapoor square was constructed there in later and Mohammadieh gate that Edam square replaced it later. There is no shrine in this quarter except seyed Naserddin while there is 13 shrines in other quarters. Perhaps the lack of shrine has been the reason that its lands was barren and undeveloped since the ancient time until the beginnings of Qajar era. While there had been a main water resource named "Sarah Pakhshkon", the people resided in this quarter due to population increase since the beginning of kingship of Naserddinshah and created some small quarters most of which became renown with the title deriving from name of the people residing in there such as 1-Ghooarkhaneh Kohneh quarter, 2- Bajmanloooha quarter, 3-Dabaghkhaneh quarter,4- Chaleh Hesar quarter, 5- Hematabad quarter, 6-Pachenar quarter, 7- Qomiha quarter, 8- Aramaneh quarter, 9-Baq Khosrokhan quarter, 10- Torkamanha quarter, 11- Darvazeno quarter; it seems that the oldest place of Sangalaj is the places around Seyednasreddin which it is located between sangalaj quarter and bazaar. About the Passageways existing in sangalaj quarter, it could be stated that there had been some passageways in sangalaj quarter including 1-Sandoghdar small bazaar passageway,2- Filmkhaneh passageway,3- Darkhoongah passageway that it's name and location of some of them still remains like Darkhoongah passageway that derivation of the word is not clear.

Sangalaj based on plan 1930, capital, governed by Abdolghaffar Hamedani:

In the changes made after transformation of location of Tehran walls, the most changes were made in sangalaj quarter and the reason was that the main part of these lands were purchased by Mirza Yousef
Mosofilmamalek in his chancellery and took measures to develop it. These lands were extended from today's Rahahn square to the neighborhood of DEıh vanak. Contrasting plan of 1930 with the previous plan shows that important changes had been made in the west of Tehran in the term between presenting these two plans.

Gates in sangalaj quarter

There are four gates including 1- Khaniabad, 2- Gomrok, 3- Ghazvin, 4- Bagh shah connected to sangalaj quarter with the outside the city. The two gates, Gomrok and Bagh shah had been recently constructed. Khaniabad gate was along the same Mohammadieh gate which had been constructed in Mohammadshah era. Ghazvin gate had been constructed in the past.

Quarters in sangalaj quarter

The quarters including 1- Ghoorkhaneh kohneh(in the north of sangalaj quarter and west of Arg), 2- Bajmanlooha(in the north of Tekieh Abpakhshkon), 3- Dbaghkhaneh(in the south of Abpakhshkon), 4- Argigha(in the northeast of section of Abpakhshkon or jadid), 5- Haj Sheikh hadi(in the east of Abpakhshkon or jadid), 6- Chaleh Hesar(in the Galooobandak passageway), 7- Hematabad (in the east of Ghomiha quarter), 8- Ghomiha(in the north of Moayarolmamalek), 9- Darvazeh No (in the south of Imamzadeh Zeid and Aramaneh alley), 10- out of Darvazeh Ghazvin "Ghazvin gate"(in the south of Aramaneh street and the section of sangalaj quarter or Jadiid), 11- out of Darvazeh No (in the sout of Moaryaromamalek street in the section of sangalaj quarter), 12- Jadid(in the west of out of Darvazeh No in the section of sangalaj quarter or jadid) could be seen in the plan.

Streets in sangalaj quarter

Streets in sangalaj quarter were as follows: 1- Jalilabad, 2- Amirabad(from east to west), 3- Markizkhaneh(along Amirabad street), 4- Haj Sheikh hadi(from north to south), 5- Nosratdoleh, 6- Ghavamoddoleh, 7- Haj Sheikh Hadi, 8- Bagh Jannat, 9- Amirieh(from north to south), 10- Darvazeh Ghazvin, 11- Nosratdoleh Dovom(second), 12- Darvazeh no, 13- Ghapoogh, 14- Darvazeh Gomrok, 15- Bagh Moayarolmolk.

Original Tehran had four residential quarters. These residential quarters were clustered around the axis of bazaar- as the backbone of the city and the focus of life – were called: Sangalaj, Chal-meidan, Bazaar and Oud-laajan. Sangalaj was razed and converted into City Park. Chal-meidan is no longer distinct -- it is a shadow of its former self. And, while Bazaar no longer serves as a residential neighborhood, commerce continues to thrive during the day. Most unfortunate of all, Oud-laajan now ranks as the most neglected of the four. Once a wealthy residential neighborhood, Oud-laajan is now mainly a staging area for commerce in Bazaar. For this and other reasons, which I will soon make clear, Oud-laajan is moribund. It has become a symbol of decay and neglect for all residents of Tehran, and has gained a reputation as a hotspot for crime. Today, Oud-laajan is placed in Tehran’s 12th municipal district. In present paper, the architecture of Sangalaj hall in Tehran has been perused. Sangalaj is one of the four neighborhoods of primarily old core of Tehran. It is a neighborhood survived from old time with it primarily structures and has to remain alive in a new big metropolis. This neighborhood is facing with many challenges which are emerged because of mismatch of what objectives over them the neighborhood has formed and what needs now people with new lifestyles expect. Now neighborhoods like this in the literature of planning in Iran are recognized as problematic areas. On the other hand, it was attempted to renovate the architecture of Sangalaj by new orientations of planning in Iran which is shown its new buildings, spaces, streets, infrastructures and etc based on approaches trying to make environments for new people. This planning maybe affected by modern styles has willing to make it most far from old parts and old styles. According to the modern lifestyles, the evaluation of residential environment quality in these different districts can be indicator of values and qualities of each environment.
CONCLUSION

Through the observation of the present paper, it has been concluded that, however, the architecture in Iran has been changed in perspective of economic result and materialism in the procedure of life in the modernity elements. Hence, to preserve the resources for the future generation- we have to act in accordance with the acts in the worldwide. The application of new energies in the construction and making the architecture coordinated with ecology could help us in the optimization and control of energy consumption by which the pollution of environment would be avoided. This leads to the increase of life quality and convenience in the human’s life in their mind and physics. Today, despite representation of sustainability issues, practically all the principles were being used by previous generation- in fact in the past all the architects were good at utilizing the natural resources and energies. The exploitation from nature realized in different levels and was taken from various resources. The observation about the strategies for traditional architecture with the objective of consistency with environment could be used for the today’s architecture. Today, within the advancement of technology- the methods could be adapted with the requirements by which the optimized usage of natural energies would be realized. In this relation, it has to be stated that architects and project developers can get past the idea and use solar panels in their designs. For most architects, the visual and aesthetic aspects are the most important. They try to create a spatial object with lines, shapes, colors and texture. These are the challenges for the architect within the customer’s program of requirements. But they do not immediately think of using a solar panel as an interesting building material. There is still much to be achieved here. In addition to the design and art/science definition described above, architectural conservation also refers to issues of identification, policy, regulation, and advocacy associated with the entirety of the cultural and built environment. This broader scope recognizes that society has mechanisms to identify and value historic cultural resources, create laws to protect these resources, and develop policies and management plans for interpretation, protection, and education. Typically this process operates as a specialized aspect of a society's planning system, and its practitioners are termed built or historic environment conservation professionals. Architectural conservation describes the process through which the material, historical, and design integrity of mankind's built heritage are prolonged through carefully planned interventions. The individual engaged in this pursuit is known as an architectural conservator. Decisions of when and how to engage in an intervention are critical to the ultimate conservation of the immovable object. Ultimately, the decision is value based: a combination of artistic, contextual, and informational values is normally considered. In some cases, a decision to not intervene may be the most appropriate choice.

On the basis of construction materials, it has to be stated that the materials involve the diversity, and the construction field has been expanded through the modern engineering instrumentations. Exploitation of the construction materials while choosing them and using the pertinent construction method to implement the construction domain would lead to the high quality of construction- in fact the environmental issues help for the better construction. Applying the modern construction methods help the designer to access the objectives of sustainable development which through this, the environmental issues would be also helpful in the construction industry. Surely, there are other consequences gained in present paper as following:

The concepts and the principles of architecture follow the culture of a territory.

The formation of architecture follows the environmental and philosophical characteristics by which the factor “time” has been mentioned as the fundamental principle for the formation of the new spaces.

According to the sustainable principle in any phenomenon, the principles could be preserved and be used as the fundamental concepts.

To keep the culture and art of a territory, getting inspired of the previous forms is not important which being inspired of the previous architecture design could be mentioned as the necessity in designing the innovative art and outlook.
It could be stated that architecture could transit the meaning, not the form

Paying attention to the architecture does not mean to imitate the realistic philosophy of the foreign territory. In the world of communication, it could be stated that technology, information and knowledge all belong to the human civilization which the exploitation from these three technologies, information and knowledge would be probable, and this is possible only through conserving the philosophical and cultural principles. Imitation does not mean in a superior art” architecture” which it could be stated that trust could not be put on the art” architecture” without innovation, dynamism, reality and creativity. There is not form for the concept of culture which in order to advance the art” architecture” in a territory, the innovation would be effective to access the concepts in this relation.

The formation of architecture involves semiologic and symbolic forms which in this relation it has to be stated that the construction with the combined elements of the architecture could not move out of the cultural cognitions. Experiencing the modern art” architecture” which is the stoppage of the relationship between environment, tradition, and history is the necessary symbol of a failed experience.

The symbol could be observed in all the phenomena. Through the philosophy, literature, art, knowledge and etc the symbols could be taken out.

The architecture involves two fundamental cultural and academic principles which by the passage of time if one of the principles annihilates so that the consequences would not be obtained. In the field of architecture, creativity and the innovation are from the fundamental principles which through these both principles the dominancy on the art would be realized.

As a matter of fact, in the procedure for the formation of architecture- various factors like ecology, consumption, performance, the materials, human force and the economy of the construction would be effective for the physic of the construction. Also, in the procedure for the impacts of the material, physical, environmental and ecological factors, the form and design of the construction have to be involved of all the values of a society. The culture attained in a construction is influenced of the factors for the human science and the innovative art allocated for the culture of the territory. Culture Architecture’s purpose is to empower individuals and organizations to achieve whole new levels of performance and effect lasting cultural change. The individuals and organizations are educated to dramatically improve productivity resulting in increased satisfaction and profit on the basis of architecture. Culture Architecture’s value proposition is simple: We provide leading-edge personal and professional development tools and training; delivered in a modern, easy to access structure. Our cost effective methodology is highly impactful and provides a high return on investment. The training is designed to engage and empower every person as a leader who can train and empower others, regardless of their history, position or current circumstances.

As observed over the years, after several years simultaneously with City Theater reconstruction, Sangalaj Theater was reconstructed as well. At first, the reconstruction was only limited to replacing the chairs and floor, whereas no reconstruction on this theater was accomplished up to now. For this, Atabak Naderi, director of Sangalaj Theater request for reconstruction of this theater from the industrial projects department in ministry of Islamic culture and guidance, by which the agreement was issued. The initial cost for reconstruction of Sangalaj Theater was low, but post approving this project the cost was increased very much. According to the consultations accomplished in centers for the performing arts, it has been attempted to allocate the Sangalaj Theater only for traditional performances; Due to the fact that this kind of performing only attracts little fans, so that, Sangalaj Theater would not be like the past with many fans.

Lack of theater halls could be mentioned as one of the main problems in the theater domain in the country; allocation of Sangalaj hall with its interesting background is a brilliant phenomenon in the
country. Due to gaining so many capabilities post reconstruction, and also based on technical system observing in Sangalaj hall, annually various performances could be organized in this hall. But there is a point to say which it is highlighted that due to organizing traditional performances in this hall, it might not be taken into account. So many people believe that due to geographical position of this hall, it might not be taken into account as well. For this, the performances organized in this theater might not be potential and attractive, by which no addressee refer to this reconstruction of Sangalaj theater—a performance played by Akbar Abdi, Iranian Actor attracted many people and gained success, which this performance accounted as the most sale performance organized in this theater. This phenomenon shows that, however, Sangalaj may be located in an unfavorable geographical location, there is a contradictory so as it could be said that organizing various performances in this theater could attract many people. This is possible in a way that due to the location of Sagalaj in vicinity of subway, many problems may be resolved. It has to be noticed that through performing art center’s support and the support by artists of theater and performing various performances, Sangalaj theater hall regained its popularity among individuals, in such a way that the distribution of advertisements in perspective of Sangalaj could be lead to the success of theater in making money.

Hence, helpful strategies to advertise Sangalaj theater hall could be effective in this way. The other effective point in making Sangalaj theater hall prominent is the type of executing this hall. A young, skilled and sympathetic director could control and undertake the management of this theater hall in a best way by which, many positive messages would be resulted. Atabak Naderi is the sample of a good manager who referred to this theater hall in reconstruction period. Naderi's referral to this theater hall lead to manifestation of the points which these points were latent. Naderi put the attempt to clear the latent points. theater community has to be thankful from these directors who try the most to keep the theater community dynamic. Fortunately, according to the various programs provided for the upcoming theater programs, so that these programs could be taken into account only while the directors in the theater domain believe all the facts in this relation.

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STUDY OF SOCIAL-SPATIAL EXCLUSION AND IDENTIFYING ITS FACTORS BETWEEN ENQELAB STREET AND COLLEGE CROSSROAD IN TEHRAN

Mahnaz Alimohammadi  
MSc of urban development planning, Faculty of Arts and Architecture, Islamic Azad University Central Tehran Branch

Dr. Atusa Modiri  
Member of Scientific Board, Faculty of Arts and Architecture, Islamic Azad University Central Tehran Branch

ABSTRACT
Despite the fact that public spaces should be accessible for everyone, sometimes some of these spaces by the boundaries created by the owners or social groups, are only accessible for particular groups of society. Such boundaries in addition to reduction in the level of spaces’ communication, is a limiting factor in the entry and presence of different society classes in urban spaces; while increasing the presence and interaction of citizens with each other and interaction with space improves urban life. It can be said that most boundaries on public spaces with private and public ownership or symbolic ownership are all negative consequences of ownership and lead to social-spatial exclusion of other segments of society. This article aims to explain examples of social-spatial exclusion on Enqelab St. in Tehran. We used exploratory-qualitative approach in this research. By using survey and documents we collected data and finally analyzed the data through mapping, and provided a conclusion about influencing factors on social-spatial exclusion on the street, and thus provided some suggestions for reducing social-spatial exclusion in Enqelab Street.

Keywords: social exclusion, ownership, urban access, Enqelab Street, College Crossroad.

INTRODUCTION
Lin Tadman defines the concept of social exclusion as: Social exclusion refers to the complex processes that some groups or communities are systematically blocked from rights, opportunities and resources (e.g., housing, employment, health care, civic engagement, democratic participation and due process) that are normally available to all people; or the right to access these issues is denied. The result of this deprivation prevents individuals and groups to fully take part in their community’s economic, political and social life (Todman, 2012). Therefore, the way boundaries influence urban spaces, urban space supervision and access in increasing or decreasing social exclusion can be investigated.

By examining different studies it can be seen that social exclusion is often studied with a sociological approach. A gap is seen between social exclusion and urban science; the gap can be seen more in studies inside the country. Thus many papers and theses carried out to reduce social exclusion, however, we can see not much works are done in regard to social-spatial exclusion. Due to the importance of the route between Enqelab St. and College Crossroad and the need to identify influencing factors in reducing social-spatial exclusion in this street and explaining examples of exclusion and approaches to control and decrease it and also to create a balance between exclusion and inclusion, the main research question is how and by which means, one can reduce social-spatial exclusion in the route between Enqelab Street and College Crossroad?
RESEARCH OBJECTIVE
Engelab Street in Tehran, as the name (Enqelab means Revolution in Persian language) indicates, always have direct and immediate relationship with the deepest social practices. Besides, this street had been played social and cultural role in Tehran by adopting cultural and artistic activities such as City Theater of Tehran and many other uses of this kind. As north of the old city of Tehran, was a place for recreational events and this can be seen in similar activities in Enqelab Street in Tehran. However, cultural and physical changes occurred in the street is not in harmony of its particular character and has been changed beyond the understanding of social identity. The relationship between the city and its citizens through social access is discrete today and this will lead to even more unfair exploitation of the street as an urban space. Consider urban space as space of citizens’ daily lives. The space where different groups of people of different ages and different needs and demands use it for different reasons. People with a very different political, social and historical background and a space that allows people's gathering. Since the Enqelab Street is free for everyone and can be used on a daily basis, different people are present there and pass the route for shopping, appointments, and so on. The street is full of private and public ownership of public spaces. The dominant activities are cultural, educational and recreational activities that seem to be accessible only to certain groups of society.

In this study, a view toward these spaces with urban identity is considered which along with the development, focuses on access in mutual relationships and moves toward social access and body congruence. This view is fundamental definition of urban planning, and its main purpose is to improve the quality of urban spaces to improve the quality of life. The major effort in this paper is to provide a proper and logical answer to the mention question through applying an approach to “prevent the social exclusion of urban space” is. In fact, what is forgotten and abandoned in changes in Enqelab Street and many other squares and streets as spaces of an old city will be placed at the center of attention. In fact, the main purpose of this paper is redefining the basic elements of social-qualified urban spaces - including performance components, aesthetics and environmental components -, in order to strengthen the collective life in these spaces and create a sense of place. In fact it is a background view of the development which has a balanced approach to development and access. So it observes the recent changes and on the other hand, transfers old concepts from epoch to epoch. The questions we try to answer in this research include:

1. What are the factors influencing the social-spatial exclusion?

2. What are examples of social-spatial exclusion on Enqelab Street to College Crossroad?

3. How and by which means, one can reduce social-spatial exclusion in the route from Enqelab Street to College Crossroad?

THEORETICAL FRAMEWORK PRINCIPLES AND PRINCIPLES
social exclusion
Social exclusion refers to the complex processes that some groups or communities are systematically blocked from rights, opportunities and resources (e.g., housing, employment, health care, civic engagement, democratic participation and due process) that are normally available to all people; or the right to access these issues is denied. Although theorists have studied social exclusion in different aspects and examined it in different aspects from economy to participation in life and political rights, but all of them agree on two features which are the process nature of social exclusion and lack of access to facilities and resources.

Numerous definitions of social exclusion are as follows:

• Social exclusion occurs where different factors combine to trap individuals and areas in a spiral of disadvantage. (DSS, 1999, p 23)
Social exclusion is a process, which causes individuals or groups, who are geographically resident in a society, not to participate in the normal activities of citizens in that society. (Scottish Executive, ND)

The processes by which individuals and their communities become polarized, socially differentiated and unequal. (ESRC, 2004)

- The dynamic process of being shut out from any of the social, economic, political and cultural systems which determine the social integration of a person in society. (Walker and Walker, 1997, p 8)

A lack or denial of access to the kinds of social relations, social customs and activities in which the great majority of people in British society engage. In current usage, social exclusion is often regarded as a ‘process’ rather than a ‘state’ and this helps in being constructively precise in deciding its relationship to poverty. (Gordon et al, 2000, p 73)

- An individual is socially excluded if (a) he or she is geographically resident in a society but (b) for reasons beyond his or her control, he or she cannot participate in the normal activities of citizens in that society, and (c) he or she would like to so participate. (Burchardt et al, 2002, pp 30, 32)

- Inadequate social participation, lack of social integration and lack of power. (Room, 1995)

Social exclusion is a broader concept than poverty, encompassing not only low material means but the inability to participate effectively in economic, social, political and cultural life and in some characterizations alienation and distance from mainstream society. (Duffy, 1995) (Quoted by Levitas & Etal, 2007).

In her book "patterns of social exclusion," Hilary Silver says “Europeans conceive of social exclusion as distinct from income poverty. Poverty is a distributional outcome, whereas exclusion is a relational process of declining participation, solidarity, and access. For some, exclusion is a broader term encompassing poverty; for others, it is a cause or a consequence of poverty. The two may even be unrelated” (Hilary Silver, S.M. Miller).

The term exclusion is widely used associated with privately owned spaces which have public use, such as a properties. (Hirsch & Et al, 2000, p. 78)

Dividing social life into public and private sections means to draw boundaries around some the material and spatial areas and eliminating the rest areas. In this way, exclusion is an act of formal and practical method to control access to places, activities, resources and information. (Madanipour: 2010, p. 76).

**Accessibility**

The key element in any discussion on the public domain is accessibility. Since the public domain must be accessible to everyone by its definition. Some environments –intended or unintended- have little access to certain sectors of society. Preventing (deprivation) often endorse or strengthen the implication of "exclusivity" or "security". This is essentially a kind of power through space control and access (Carmona: 2004, 113). Accessibility and deprivation be discussed in terms of public domain management (which includes preventing or excluding undesirable/disturbing social behavior). Managers and owners of semi-public space have different motivations for reviewing the activities; including their responsibility for maintenance, their commitment to what is about to happen in that space and their concern for marketability. Exclusion of specified activities/behaviors can be even a responsibility in control or management (Carmona: 2004, 113).

Some of the strategies demand the exclusion of particular individuals or social groups, rather than specific behaviors. A right of private ownership is access prevention and protection. Otherwise, if a particular order is not created, one cannot easily and legally be excluded from the public space. However, the public
domain is the space that is available to the public but has been in private ownership, for example, places with public distribution (e.g. through density bonuses, or direct monetary subsidies) while people think of them as accessible (Carmona: 2010, 114). Bendji, with explanation of such spaces, observes that since the public are pleasant as supporters of shops and restaurants or as traders or customers, access to and use of space has been left as a bonus rather than the right. The individuals or undesirable groups that their mere presence creates an anxiety in others could be deprived to improve the welfare and security of others and for the benefit. This type of access control is usually risk averted and tends to exclude many than a few. With a positive view, such strategies are based on the shape, on the recognition of groups or individuals who are supposedly more inclined to disobey the desired behavior. Therefore, one can be focused there. With a negative view, this leads to stereotypes and separation (Karamvna: 2010, 115). Access varies in accordance with day, time, season (Rezvani 2014, 1). According to Ben Vegas, public space has four features of accessibility as: i) physical access, ii) social access, iii) access to activities and discussions or intercommunications, iv) access to information.

**Boundary**
The boundary between public and private areas is of one objects that we use symbolically to provide identity to certain parts of our lives. The boundary is also important since it is placed between two areas as well, and plays an intermediary role. Since boundary is a line that has been drawn in space to divides the world into two areas, as it may be a reflection of power relations system as well. Boundary is employed by creating barriers to shape behavior, access can be limit and controlled and different groups in society can be brought under management (Madanipour, 2010: 271). Simmel claims that boundary is not a spatial fact with sociological consequences, but a sociological fact that forms itself spatially. Spatial Boundaries are formed by and reproduced by social action and also impress themselves on ways of thinking. Modes of separating and connecting spaces (borders, boundaries paths bridges) give objective form to subjective understanding of space and then serve to conduct the subject in space. (Simmel quoted from Tonkiss: 2009, 47).

**Ownership**
Ownership is a direct form of space control. Ownership can be real and symbolic. Real ownership is when a space is legally owned by an individual, group or company. Symbolic ownership is a more common style that users feel them as part of public places. The results of perceived ownership have positive and negative consequences. When ownership results in the exclusion of people who would like to use a space, access is denied. Ownership can also serve to invite people into a space by communication a sense of caring or responsibility. (Altman & H.Zube: 165). Public space is also controlled by the rulers and yet public domain is with ambiguity and is used by all members of society. Hence there is confusion about the concept of the public domain because it refers both to the government and the public, i.e. to the whole and the even to its subset, both to generality and to specific categories, both to non-personal relationships and interpersonal relationships, both to tangible concepts and abstract concepts, both to common concepts and to personal concepts; and it refers to levels and types of access, and benefits and variable types (Madanipour, 159: 2008).

**METHODOLOGY**
Urban design as an interdisciplinary field reflects different methods of research and studies. The research method in this paper is exploratory. As the name of exploratory indicates, it seeks to explore things that happen and questions them. In exploratory research, many unknown phenomena or relations or their meanings are discovered or explained more clearly. In this paper through exploratory research, we seek to find out the factors that affect the reduction of social-spatial exclusion in public spaces, and find some examples between Enqelab St. to College Crossroad in Tehran, and then provide suggestions for reducing social exclusion on the route from Enqelab St. to College Crossroad. (M. philips & S. pugh, 2005: 63).
This article aims to explain examples of social exclusion on Enqelab St. in Tehran and following research questions:

1. What are the factors influencing the social-spatial exclusion?

2. What are examples of social-spatial exclusion on Enqelab Street to College Crossroad?

3. How and by which means, one can reduce social-spatial exclusion in the route from Enqelab Street to College Crossroad?

And for obtaining answer to question 1, we reviewed the research literature and electronic papers and identified the influencing factors, to answer question 2, by understanding studied areas by the studying the documents and direct observation of the space and sometimes in order to verify observations, we conducted interviews (asked Cafes’ owners about their customers and what hours they come there?) in accordance with the standards. And then analyzed them in form of maps. Finally, by integrated analysis of standards we obtained the answers to question 2. The required data have been obtained in two ways:

Documents: gathering information through reading, books and magazines (printed documents), Internet resources are valid. These studies are done by attending libraries, centers and affiliated agencies. Data collection is done by primary check-operation and classifications to collect the literature and understanding of the context of the case.

Survey: includes collecting data through observation and interviews for better understanding of the context of the case.

In this paper, we attempted to use semi-structured interview and conversation with interviewees to collect information. The reason for choosing semi-structured interviews was several issues including the social dimension of the issue in which coping with them was not possible during the interview.

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In this qualitative study, we cannot use a specific and unique formula to determine the sample size. Powell believes the simple solution to determine the sample size to continue data collection until the elements of study reach saturation point. The point in which even people no longer add anything to the data or what they present is not in contrast to the collected knowledge (Hariri: 2006, 141). Accordingly, in order to identify spatial exclusion criteria, by 35 interviews, essential elements reached saturation point and replies and responses seemed being repeated. In this paper, after survey and understanding criteria on the range and producing maps, summarized Integrated Analysis was conducted on the range.

**CASE STUDY**

Enqelab Street is one important streets in the city of Tehran and is considered as the main street of downtown. Connecting Enqelab Square (24 Esfand) to Imam Hossein Square (Fozieh). Due to the fact that numerous universities and department stores including books and journals stores being located in the route, it is one considered as one of important and busy streets of Tehran. This area is centered between Districts 6 and 11. So that northern blocks are located in the 6th district and southern blocks are located in 11th district. Since 1966, the street was known as the main axes of identity with a few dominant performance of city services such as education, cultural, commercial and amusement. Despite the passing of 20 years since that time and emergence of other services in other parts of town, the context not only maintained its position as a major axis of urban services, but with the construction of City Theater, Vahdat Hall it also increased its importance as an educational and cultural center.
Tehran as Iran's capital since the last two centuries is manifestation and the source of enormous reconstruction. The first transformation occurred from Naser-al-din Shah. But the fundamental steps took place during the reign of Reza Shah. And by urban projects, it attempted to alter the morphology of Tehran urban area. (Madanipour, 61: 2002). During Reza Khan, extensive interventions in the context of old Tehran occurred. City of Tehran in the early reign of Reza Khan (1925) almost was not different from reign of Naseri. With the approval of the first plan of Tehran, "the municipality" the first project under the name of street map of Tehran carried out in 1930. New streets were built. (Buzarjomehri and Khayyam and main thoroughfares became wider.

Demolition of the old Tehran fence began from 1932. In the next years boulevards were replaced instead of the fence: in north, Shahrreza Street (currently: Enqelab St.), in east Shahbaz 11 Street (currently: Shahrivar), in south Shush Street and in west Street Thirty Meters Military Street (currently: Kargar). Intersections were designed at a right angle. Streets and squares turned into main transport channels and passages. And this distinguishes them from older squares and the streets, as in fact communications were pedestrians. The two streets of Shahrreza (Enqelab) and Pahlavi (Vali Asr) that both were named after the governor, were the main east-west and north-south axes of the city structure. In this period (1933) Tehran was further extended with an area of 46 square kilometers, i.e. 11 times bigger than the period of Fath Ali Shah and 2.5 bigger than reign of Naser-al-din Shah, respectively. Aside from new streets, new elements of modern life that had no place until that era gradually emerged in the body of the city. During the years 1925 to 1941 Tehran Railway Station, Baghshahi Fort, Najmieh hospital, Tobacco Factory, National Garden (City Park) and Tehran University were built and established. (Madanipour, 61: 2002).

In the second Pahlavi era, with rapid urbanization, the development of new residential areas, the creation of new routes and the construction of new educational, health and cultural places, the need to build newer routes emerged. These routes were often along the first Pahlavi along routes, with the emphasis on the new development and formation to the north, west and east of the city, and covers a bit higher part of city. The first measures began since the first Pahlavi in Iran and continued in the second Pahlavi era was to establish the pattern of modern life into the country. These interventions caused mismatch to the identity of urban spaces and alienated people with urban spaces over time. Interest in recreation and outdoor excursion, pilgrimage that were mainly through walking, were the characteristics of the city. In addition markets were places of social interaction of people whom lived in a coherent context and in a sectarian thought. Continued efforts during the first Pahlavi era was to define a different identity for each streets, with the establishment of different applications in different streets. For example, in the east - west Axis of Shahrreza streets and North - South Axis of Ferdowsi Street, most public buildings such as universities, hospitals, and schools were built. Laleh Zar and Istanbul streets, with the emergence of new hotels and cafes and shops were recreation centers (Madanipour, 61: 1381).

At the beginning of the 1960s with the aggravation and confrontation between the north and south of Tehran, gradually attractions of the city center was reduced. And the tendency to leave the area by families who prefer new villas in the north of the city was formed. Changing the location of government building from the Marble Palace to Niavaran fueled this trend. In contrast to the position that these areas are in relation to the geometric center of the city, the development of office and commercial applications were intensified and in the same areas, Tehran's first high rise buildings were constructed (aluminum building), thus attractions decline and business activities and workshop continually increases till the Islamic Revolution. Tehran development in the aftermath of the Second World War was very fast and out of control. Within 45 years after 1941, the population grew 6.8 times and area expanded 12 times. The growth emerged in form of development in surrounding areas and towns, which gradually merged within the urban context (ibid: 61).
The study of land use in the studies indicates that the relative contribution of residential land use in the surrounding context is relatively lower in this area. And large-scale urban and megalopolis use such as universities, cultural centers and art (Vahdat Hall, City Theater ...), stadiums and hospitals had been allocated a larger share. According to the land use map of the area, a large part of Enqelab St. is dedicated to multi-users activities. These include buildings with stores in the first floors and administrative offices on top. And on the southern edge axis, especially between Jamalzadeh Street to the College Crossroad the distribution is more. The highest concentration of non-residential types of users is on the edge of Enqelab St.

Groups of commercial and administrative use in parts of the Enqelab axis, followed the establishment of Tehran University have created special performance. The most important of these performances is the route of bookstores and the publications from Enqelab Square to Vesal Intersection. Bookstores and also retail units and CDs sellers, stationery stores as well as publishing houses infiltrated at the southern edge of Enqelab street along the north-south axis, such as Fakhr Razi street, University street, Aburayhan street and an area have created an area of the publication and books supply. Suits stores at the southern edge of the other side of Amir Kabir University is of special performance with a long history. The most important characteristics of land use in this area is performance. Some examples are: the accumulation of educational land uses (Tehran University, Amir Kabir University, Tehran Azad University, University of Arts, University of Religions, and University of Applied Science etc.) cultural land uses (City Theater, etc.) which have national level performance. Cinemas and galleries and museums as other cultural facilities are located in this area, too.

Map 1. Land Use

Enqelab Street is center of Iran and Tehran's important areas. Establishment of Tehran University in 1934 was the most unique influential attempt in the physical (factor effective in other activities of Enqelab Street) and semantic dimensions of (effective civil and social events of Tehran University) Enqelab Street. In addition, the city theater in Tehran is as the second unique activity in the presence of two
classes of citizens and artists. The second front influential activities are Rudaki Hall, Alborz high school, Azad University of art and architecture, Tehran University of Art and Amir Kabir University.

![Image](image1.jpg)

**Fig 2. Bookstores route**

Based on what was stated, public life in Enqelab Street owe to main and influential activities of Enqelab Street such as Tehran University, bookstores, City Theater and so on. With unique features that can be seen on Enqelab Street compared to other streets. Its place is beyond a public space. And this difference is due to current public life since its formation. Formation of uses depends was formed in accordance with Tehran University. (Tehran University is a symbol of modern cultural renaissance) as after the establishment of the Tehran University, educational institutions such as Azad university of art and architecture, Tehran University of Art and Amir Kabir University and cultural institutions such as cinemas, theaters, bookstores and cafes are formed. The locations of mentioned items are presented on the map below. And due to the proximity of numerous restaurants we refused to write the names on the map. Cafes’ location can be seen in the following table.

### Table 2. Cafes’ Location

<table>
<thead>
<tr>
<th>Name of the Cafe</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Godo Cafe</td>
<td>Enqelab Street, Vali Asr intersection</td>
</tr>
<tr>
<td>Sepidgah Cafe</td>
<td>Enqelab Street, next to Sepideh cinema</td>
</tr>
<tr>
<td>Verta Cafe</td>
<td>Enqelab Street, next to Sepideh cinema</td>
</tr>
<tr>
<td>College Cafe</td>
<td>Enqelab Street, near the eastern side of Daneshjoo Park</td>
</tr>
<tr>
<td>Max Cafe</td>
<td>Enqelab Street, opposite the Daneshjoo Park</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Honar Cafe</td>
<td>Enqelab Street, not far from the Vesal, Osku Alley</td>
</tr>
<tr>
<td>Give Cafe</td>
<td>Palestinian street, Nayebi Jerusalem</td>
</tr>
<tr>
<td>Lorca Cafe</td>
<td>Enqelab Street, Bozorgmehr St.</td>
</tr>
<tr>
<td>Coffee Qajari Cafe</td>
<td>Enqelab Street, not far from the Vali Asr intersection, Mozaffari Street, Khajeh Nasir alley</td>
</tr>
<tr>
<td>Gandom Cafe</td>
<td>Street, revolution, Vali Asr intersection, Passion Alley</td>
</tr>
<tr>
<td>Nazdik Cafe</td>
<td>Enqelab Street, East side of Tehran University, Qods street</td>
</tr>
<tr>
<td>Moon Cafe</td>
<td>Enqelab Street, beginning of Vesal Shirazi</td>
</tr>
<tr>
<td>Inja Cafe</td>
<td>Enqelab Street, Abu Reyhan Street</td>
</tr>
<tr>
<td>Ronas Cafe</td>
<td>Enqelab Street, South Palestine</td>
</tr>
<tr>
<td>Selfie Cafe</td>
<td>Enqelab Street, Vali Asr intersection, Passion Alley</td>
</tr>
</tbody>
</table>

**DISCUSSION AND FINDINGS**

By studying the concepts and theoretical foundations, social exclusion factors include: access to space (visual access, physical access, and social access), access to activities and ownership. The results are as follows in accordance to obtained criteria and interviews analysis:

1. Although Tehran University in terms of law has governmental ownership, and there is no legal impediment so that the university be a public domain, it has been enclosed by fences. And lack of access to space through lack of physical accessibility exists for social groups except Tehran University students and staff. It is followed by control of its activities and lack of access to the space activity through ownership and decision on the use of space has led to the exclusion of other segments of society. This is also true for Amir Kabir University, Tehran Art University and university of art and architecture also have visual limitations in terms of access.

2. Some cafes in Enqelab Street such as Max, Godo, College, Sepidgah and Verta ... have visual and physical access through social and sometimes symbolic boundaries and symbolic ownership of the student and artists led to lack of access to other social individuals. Thus, access to space is only for students and interested persons in the art and sometimes more specific groups of students. In fact, activities in space is inviting for them, so that other people are experiencing social-spatial exclusion.

3. In Daneshjoo park, despite visual and physical access, social boundaries due to of the presence of transvestites and drug-related sales and symbolic ownership of these groups leads lack of social access; followed by the lack of inviting for others, so that other people are experiencing social exclusion. And also transvestites around the city theater create social boundaries after sunset which leads to exclusion.

4- In other spaces of Enqelab Street, despite the visual and physical and social access for all people, there is no access to activities for all. Because the activities in the space is not inviting for all. The continuous presence of these people lead to a situation that the symbolic ownership is attributed to them. For example, in the theater area: during the day students and in afternoon artists and art enthusiasts attend and sit down to dialogue or to see the theater. So that these activities is not inviting to others. Another
example is bookstores that despite no lack of physical and social access people show little interest in watching showcases, except when it is compulsory for them to participate on that activity. Because the activities such as vendors (reduces the width of the sidewalk), distributing propaganda leaflets prevent invitation. And most of people walk on these routes since they have in front of Tehran University, despite no boundary, and only Tehran University students work in outer space. This activity is not inviting to others. This lack of access to the activity leads to social-spatial exclusion for other people.
Map 3. Deprived and Excluded Groups

In response to the question: “How and by which means, one can reduce social-spatial exclusion in Enqelab Street in Tehran”, Results in Table 3 are provided.

Table 3. Suggestions to Reduce Social Exclusion

<table>
<thead>
<tr>
<th>Goal</th>
<th>Suggestions</th>
<th>Croquis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving visual access</td>
<td>Designing shop’s showcases from bookstores and Cafes with more openness.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduce the density of plants in the south side and east side of Tehran University to the north side of the Daneshjoo park.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Proper design of bus stops that block visual visibility. Especially in Vali Asr intersection that blocks the view to the theater with of transparency approach</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Proper design in entrance of the subway underpasses in Vali Asr</td>
<td></td>
</tr>
</tbody>
</table>
### Improving social access

<table>
<thead>
<tr>
<th><strong>The elimination of social and symbolic boundaries in cafes by creating a semi-public space between private space of café and public space of the street with tables and chairs in front of the cafe.</strong></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>The elimination of social boundaries created in the Daneshjoo Park, due to intersex groups and drug sales, through oversight and putting regular programs in the park, and attract other people daily, and the exclusion of those people from this space.</strong></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>The elimination of social boundaries existing in the South side of Enqelab Street, between Daneshjoo Park and College Crossroad by a group of transvestites after sunset, through surveillance and active nightlife user in the street such as putting tables and chairs in front of restaurants and cafes and performing public art in the street.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Good design of Tehran University, Amir Kabir University, and Tehran art university edges by creating a semi-public space, between the public space of the street and the interior of the university.</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>The lack of using of real ownership rights for privatization by using physical barriers to the Tehran University.</td>
</tr>
<tr>
<td>elimination of activities in areas such as abnormal in the park and transvestites activities in the park after sunset</td>
</tr>
</tbody>
</table>
Changing bookstores condition into cultural environment and managing bookstores and providing Book Cafes with the audience of all age groups, even children and continuous activity throughout the night with proper lighting.

The creation of individual and collective activity on the campus of the theater and Academy of art through public art for all age groups (street performances, street music, etc.) and also activities at night.
<table>
<thead>
<tr>
<th><strong>movie screening at night and theater performances for different age groups</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public use of holding exhibitions in the lobby and using the amphitheater in Faculty of Arts of Tehran.</strong></td>
</tr>
<tr>
<td><strong>Good design of Tehran University entrance to create collective activities</strong></td>
</tr>
</tbody>
</table>
Map 4. Suggestions for the studied area
CONCLUSION
In fact, when we lack physical access, social-spatial exclusion has higher domination, because lack of physical access leads to lack of social access and access to activities for others; as the owner often decides on prohibiting visual access of the space. Another types of exclusion that is caused by physical access is when a person despite his interest to attend in a space, bans himself from the space due to the presence of social boundaries (intensity of deprivation in the social boundaries that their pattern is negative increases.), which is significantly lower than the first group. The last type when no social and physical boundaries exists, but the activities in space are not inviting for those who do not like it. In fact, despite the potential, space is not inviting for other people.

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THE IMPLEMENTATION OF URBAN SPACE SUSTAINABILITY FACTORS IN DESIGNING THE NEW CITY OF ALI SHAHR

Mahnaz Alimohammadi
Urban Design graduate from the Faculty of Arts and Architecture, Islamic Azad University, Tehran center

Davood Safdari
Urban Design graduate from the Faculty of Arts and Architecture, Islamic Azad University, Science and Research Branch, Tehran
Davood.Safdari@yahoo.com

ABSTRACT
A consideration to the experiences of new towns in Iran, as a new movement in contemporary urbanism attitude, shows this fact that there is no considerable attention to the matter of public urban space in the field of urban design. On the other hands, we can obviously perceive the roles of public urban space in historical urban tissues in distinctive scales which could be durable throughout the centuries. With Detailed regarding to the products of urban design in new towns, we can reach the important issue that--instead of great attention to the climatic parameters in design of urban space of ancient tissues-- these ancient effective climatic factors have less influence on process of designing public space. This Paper tries to revise the current situation and design the open spaces in Ali Shahr, with precise regarding in climatic patterns of ancient city of Bushehr. The importance of this issue can be more intensified when know these ancient tissues satisfy the amenity of spaces and support the pleasure and variety of different activities, with considering in climatic parameters in designing of urban spaces. From a reasonable standpoint, this Paper-- with emphasizing at process of urban space’s generation in district no2, phase no4 and the role of climatic factors in shaping these spaces and also the influence of these spaces to increase identity of the city -- tries to achieve appropriate design principles, according to climatic design parameters of historical tissue of Bushehr.

Keywords: climatic patterns, sunshine, wind flow, Bushehr, the new town of Ali Shahr

INTRODUCTION
Under the provisions of Article 1 of the establishment of new cities in January 2001 approved by the Assembly, and Article 2 of the Executive Regulations in August 2003, which has been approved by the Cabinet, new town refers to the population points located outside the privacy of towns to resettle at least thirty thousand people along with buildings and public, social and economic facilities for residents within the framework of Iran's Supreme Council for Planning and Architecture. The need to build a new town with a population in accordance with government policies in the national, regional or local physical design by proposal of Department of Housing and Urban Development was approved by the Supreme Council for Planning and Architecture in Iran. After notification of the Supreme Council, the builder prepares a comprehensive plan of building a new city. Under the mentioned laws and regulation, New Towns Development Corporation as a holding company, established in 1989 according to the policy by the Ministry of Housing and Urban Development for planning, coordination and supervision of the design and implementation of new towns. Since 1989, the company fulfill their mission to establish 22 new towns construction companies as a subset of the parent company. (Aghighi, 2009: 27)

After two decades, it is a relatively good time to evaluate and judge any policy or program, particularly, when the country is in new selection and a new experience in the field of policies and programs, especially if those policies are experienced in the period, when wide and varied range of those programs
had been experienced (Zanjani et al., 2009: 6). Experience of new towns in Iran is indicative of this claim that new towns are recognized to settle the overflow population in a rapid process and street are considered as separators and by ignoring the urban spatial concepts in the design of public areas, social presence is in a new city will be lost (Abedi et al., 2009: 76). The public realm that is the most neglected part of the new cities, is a place where interactive dialogue among citizens take place face to face, but now lack of attention to the qualitative aspects of urban design in the cities and focusing solely on physical-biological aspects of human induced the formation of two-dimensional design, chess streets and blocks on the sidelines. As stated the objectives of building a new town has been proposed as reserves of population additions of metropolitan cities during the past two decades. And with this kind of attitude, a kind of design is presented regardless of the value, with the same height. Lack of attention to the further development of the city and the importance of keeping the population, lack of attention to collective memory, creation of public spaces and lack of attention to social needs and recreation centers for the residents are some examples which has not been considered in these cities. However, the establishment of new city can bring people life, where a new starting point in the life of its inhabitants can be created. (Bagheri Shahid, 2006: 61)

A series of studies and research in the field of sustainable urban design, followed by discussion about sustainability, mainly three components of environment, social and economic exist of which the environmental component physically emerges other than two components in the city. Therefore, we can say that due to environmental factors of design platform, has an important role in the urban public space. Regarding this subjective background, it can be understood, that in particular climatic areas, considering affecting climatic variables and components plays a pivotal role in public space design process. Clever attention to historical urban tissues that preserved their value over a period to date obviously lie ahead a unique position of urban public spaces in different scales. The vibrancy of these spaces can help much to the richness of the city in various fields of social, physical and economic aspects.

Implementation of this attitude in traditional urban design of Iran indicate that although climatic design components are considered in major old towns in multiple climatic areas, a good look at the process and product of urban design in new towns indicates an opposite situation. This paper aims to review the concepts of urban public spaces, followed by a lively urban public space based on efficient and effective climatic components in the formation of such spaces to provide more access to the identity of towns as a new tradition of urbanism in Iran; on the other hand it aims to provide the necessary conditions for greater participation of the lively urban public spaces based on climatic patterns in the design of new towns. In this context, the new city of Ali Shahr in Bushehr province which has a hot and humid climate is studied due to the patterns of climatic design patterns in the public spaces of the old tissues and lack of physical patterns in urban spaces of Ali Shahr and is used to develop final criteria.

A view on the results of activities in the field of urban design in the city shows that the urban public spaces as an integral part of urban design has received little attention. Given the key role of these spaces in creation of an atmosphere of interaction and creation of a collective memory and the promotion of urban identity, obviously we have to redefine the role of urban public spaces in the design of the new town of Ali Shahr. This paper seeks to address the role of climatic patterns on the formation of urban spaces of Bushehr historical tissues, to discuss the role of this important issue in urban spaces of Ali Shahr in terms of design process. Ali Shahr need for a redefinition as a new town in the review of the current situation. The significance of this issue with regard to the particular climatic conditions in Bushehr region is increased, because in such areas, environmental criteria in urban design, provides welfare of citizens and dynamic activities in urban space. Despite the compact city pattern in formation of Bushehr tissues and with environmental standards, physical and urban design in Ali Shahr shows a different situation. In this paper, with emphasis on the manufacturing process of urban public spaces in Ali Shahr and the role of climatic factors in the formation of these spaces and the effects of these spaces in the development and upgrading the urban identity, a necessary precondition for achieving an
appropriate pattern in designing urban public spaces in accordance with climatic design criteria will be provided.

**RESEARCH OBJECTIVES**

1. Achieve an appropriate pattern for urban public spaces based on its relationship with climate

2. The typology of urban public spaces in the old tissues of the Bushehr to introduce design patterns of these spaces in new towns

3. Determine the criteria guidelines for urban design in urban public spaces of Ali Shahr based on the climatic elements of architecture and urbanism

**METHODS**

The basic method in this research is comparative-analytic method. It should be noted that due to multi-part nature of the study, different methods are used in each part to achieve the goals. The library method was used to evaluate different approaches and historical research was used to examine the changes and tissue analysis for a historical period; observation and field study was used to collect information.

**BUSHEHR AND ARCHITECTURE AND URBAN CLIMATIC PATTERNS OF ANCIENT TISSUES**

The main issue in today's world of contemporary architecture and urban planning, is the separation of link between domestic architecture and urban planning, and modern requirements. It is necessary to remind methods used in the ancient world as a symbol of green solutions and adapt them to the new world by the technological advances of our time. The necessity for reviewing past solutions to adapt to difficult climatic conditions is that architecture and urbanism of those days were a local sustainable process that has been transferred from a generation to generation over a long time by trial and error for hundreds of years. Then sudden interruption of this process by faster and easier solutions of modern architect and urbanism forced us to forget all environmental methods. In this part of the article, we tried to study the traditional local architecture and urban planning strategies of Bushehr in accordance with adaptation to climatic conditions of the region, especially at the times when human had to use natural clean energy to learn valuable lessons in architecture and urban planning of new towns as a new movement in urbanism and architecture.

![Fig 1. Eugene Flanden in Bushehr Source: www.bushehrema.ir](image1)

![Fig 2. Aerial photos of Bushehr in 1951 and 1956 Source: geographical organization of Iran archive](image2)

In traditional Iranian architecture and urban planning, adherence to the influence of climatic factors can be seen clearly in the tissues of urban physical structure and the design of architectural monuments. The study of this issue is provided more in areas with a specific climate. This traditional Iranian architecture and urban planning, can be seen in Yazd, Kerman, Tabriz, Isfahan and major historical tissues of Iranian
towns. Climatic factors in formation of tissue of towns that still part of their historical tissues are visible can be examined and considered. With this introduction and based on presented materials, in this section of the article, hot and humid climatic of the Bushehr region in Iran is emphasized and climatic factors in architecture and urbanism in historic tissues of Bushehr as a reference guidance of urban design will be discussed. The necessity to view Bushehr ancient tissues as a reference to the climatic design is due to the fact that the design substrate, i.e. new city of Ali Shahr, is a subset of its upper area of the city of Bushehr. Due to climatic conditions and characteristics and geographical location of Bushehr, it can be concluded that the conditions create some major limitations for the human environment; these restrictions that often emanating from the effects of the sun and the wind and the overheating of the buildings at hot periods, disrupt the comfort in a domestic spaces. Now the use of mechanical devices such as air conditioners and systems are enough for tolerable conditions inside the municipal buildings. However, adopting climatic designs related to consistent and experienced architecture and urban design are considered as the basic conditions for optimum productivity of factors and climatic factors in this case. The climatic designs in this area often include goals such as utilization of daily fluctuations in temperature, protect buildings against radiation, permanent and effective ventilation. It is clear that achieving any of these objectives above is possible by using various methods (Givoni, 1994: 56). This situation in Bushehr provides a suitable climatic conditions for the recognition of design strategies in summer climatic conditions. Basically, it can be stated that in the ancient zones, everything was under the influence of climatic conditions and were largely influenced by comfort and the physical appearance of tissues are in accordance with the theme. This is obvious in the tissues of the Bushehr with hot and humid climate such as Bandar-e Lengeh, Bandar-e Kong, and Siraf. Like hot and humid climatic zones, adequate ventilation and shading is the most important climatic issues in the tissues of Bushehr. In the ancient tissues of Bushehr, prediction of climatic design solutions in a hierarchy can be seen from urban to architectural space and spatial structure of tissue is influenced by climatic conditions, though the role of social and security factors in this area cannot be ignored. So we can say that two elements of the shading (sunlight) and wind are crucial elements in the formation of tissues in Bushehr. (Ranjbar, 2007: 5)

climatic location of the historical tissues
In locating historical tissues of Bushehr in comparison with other cities in hot and humid climate, one should refer specific position of tissues as peninsula. The privileged position provides the possibility of wind blowing in several directions and the wind speed is higher here. It has been one of the factors that caused the tissues of Bushehr with rarely signs of wind. Unlike Bushehr old tissue formations in cities such as Bandar-e Lengeh, Qeshm, Bandar Abbas and Siraf are in linear form on the edge of the beach, and that is why big wind towers in these areas are facing the sea to make the most of the sea breeze. This particular form of Bushehr tissue formation and streets orientation towards the sea provided the penetration of wind flow into the tissue. Although the orientation of the building blocks was fundamental factors to absorb the least amount of sunshine and most buildings are in east-west elongation. The location and multiple direction of wind has caused the formation of the blocks in different directions. Aside from this, the position of tissues in relation to land and topography, is in relation to climatic condition. (Rajaei et al., 2006: 64) Earth's natural state where historic tissues are located on is in a form that the eastern part is higher than the western part. This means that in the eastern part, the building height is shorter. If height complies with topography, a tissue formation orienting to the west was used to receive more heat. On the other hand created step could decrease the amount of shading on buildings. Another issue that has to be considered in this regard can be lower level of underground waters due to the higher height in the eastern part of the earth. This solved the need to create downstairs in the eastern part to avoid moisture.

protection against sunlight and hot air
However, the direct influence of the sun to the interior spaces in the cold season can help to the natural heating of spaces. But during the warm months, these causes these spaces to be too hot and humid and from this point of view, it is considered as negative factor. Thus, according to conducted analysis in
literature and historic tissues of Bushehr, using the following methods could reduce the warmness of interior and exterior spaces to a minimum:

- In urban design, integration of traditional buildings, narrow and irregular streets and compact texture of city with high walls provided maximum shade and sunlight. These spaces and elements, provide cooling and ventilation in urban areas to provide comfort. (Consulting Engineers of City and Planning, 2003: 168)

- Partially covers of pedestrian paths through the masses provides maximum shadow on the surface of the land, which can be seen in various parts of the urban tissues in the region.

- Traditional architects consider details in their designs such as troughs and ridges, which provide the maximum shadow. Other details included in the design of this buildings are "shelters" of roofs. Since the roof top receives maximum amount of sunlight in comparison with other parts. Sometimes in these areas, "shelter" with height of 2 meters are recommended to reduce thermal radiation to a minimum with providing the maximum shade for the roof. Although long shelters offer additional benefits such as establishing protected private space in the roofs and protecting rooftops from dusty desert winds.

- Double ceilings is another method of adaptation to hot and humid climate. Very low air capacity between the two shells works as insulation. And, therefore, less heat is transferred into the interior space, and the inner shell will be cooler than the outer layer.

- The establishment of the building to minimize solar radiation. (Givoni, 2003: 88)

- Select a suitable building materials in order to minimize heat.

- Use deciduous trees to create shadows on the building.

- Establishing main spaces on courtyard or outdoor in the shade.

- Use common set of building walls and creating a compact texture.

- Use bright colors and smooth surfaces in the roof and exterior walls facing the sun in the summer

- saliency on roof, covered porch or balcony to create full shade on the outer surface of the window and openings the walls facing the sun and use proper shadings.

- The use of outer space, suitable for use when the weather is bad.

- Cover the exterior walls with appropriate materials and compact structure prediction. (Givoni, 1998: 225)
Fig 4: Use deciduous trees Source: authors (2008)

Fig 6: east-west orientation Source: ibid

Fig 8: high ceilings Source: ibid

Fig 3: Use bright colors and smooth surfaces in the roof and exterior walls facing the sun Source: Jabarnia Consulting Engineers

Fig 5: Use shadings for windows and openings Source: Jabarnia Consulting Engineers

Fig 7: Rear openings Source: Bushehr

Credit: Cultural Heritage
Utilization of Winds
Establishment of effective and continuous ventilation to maximize air flow in monuments and historic tissues of the city has been done in several ways:

- The height of buildings tend to have Draft (sea breeze) in summer

- The immediate vicinity of the closed space with open space

- curved protrusion and torsion of the outer body of the building, known as the whipping wind; as the wind will be directed towards the bottom of the building.

- Micro and small urban blocks, perhaps it could be stated that there is no much division and city blocks in any city in the history of Iran in the same area. This tendency is nothing more than a climatic factor and it is due to the need proper air flow in the inner space. The consequences of such strategy are:

- Create an intertwined network of urban streets

- The creation of numerous intersections

- Change the nature of passages to primary and secondary grades

- High use of land by urban streets which is a significant fault

- Narrow width passages that in fact compensates the defect in the fourth consequence. It has three advantages: First, reduced passages in the occupation of the land, second: create more shadows in the streets, and third urban passages to enter the breezes to the heart of the city (Jabernia et al. Consulting Engineers, 1999: 245)

- Other strategies are scattered squares in the neighborhoods according to environment. And regardless of their random circumstances or tactful form they have their own values and psychological atmosphere. Wind energy potential which is created by convergence and contrast adjacent buildings with diverse views in tight alleys is released in an open space which is very pleasant. (Jenab, 1994: 58)

Fig. 12: increasing the height of the central spaces, Source: ibid

Fig 11: Using plans with thin sections, Source: ibid

spatial structure influenced by climatic and social traditions
Bushehr general tissue space is formed by a combination of building mass and open spaces between buildings. The open space includes spaces between buildings, streets and open spaces of neighborhood that in some cases are the center of the neighborhood. Courtyards of buildings in combination with these open spaces, create a balanced mix of mass and space in the tissue. Streets lead the wind into the tissue and open spaces help distribution of the air flow from the sea. The formation of the building blocks is in such a way that the form of small single house is with crossover passages around them, so that maximum flow through the masses will be created. As mentioned above, the main objective in a hot and humid climate is to provide of the air flow around the blocks. This is clearly seen in the tissues of Bushehr. With this regard, the formation of streets, open spaces and mass construction in Bushehr has formed four main areas: Kuti neighborhood, Behbani neighborhood, Shanbadi neighborhood and Dehdashti neighborhood. Each of these areas have a center, next to the mosque in the neighborhood. Kuti neighborhood center is next to the Mosque of Sheikh Saadoun (Sadan), and centers of neighborhoods like Behbani, Shanbadi and Dehdashti were formed next to mosques with somehow same name. Apart from the Kuti neighborhood with much of it remaining currently, the other neighborhoods are experiencing deep structural changes. It should be noted that the open areas are also form alongside the Jome mosque, Kazerouni mosque, Haj Maryam mosque. In general, in every mosque next to the historic tissues of Bushehr and an open space can be seen, which indicates combination of social customs with the climatic atmosphere. In this section, we should note that the tradition of public ceremonies related to Ashura rituals is in the context of Bushehr is rooted in the communities and much of central importance in the context of Bushehr areas as public spaces of the city are based on this tradition. Events such as chorus, shoring will be held in the old tissues of Bushehr. In addition to holding these rituals with music, learning books related to the ceremony in the past has been a duty on teens in the old neighborhoods.

Public Open Spaces
As mentioned above, public open spaces in the tissues of Bushehr in addition to social functions, perform air flow in the passages. These spaces in old tissues of Bushehr have been divided into two categories: the first category spaces are the intersection of streets. And the second are the spaces near the public elements such as mosques for social uses. Important parts of these areas are centers. Given the importance of these spaces, creation of maximum climatic comfort conditions for the people in space has been designed as one of the basics. In a comparative study based on aerial photographs taken in 1956 and 1973 at two different times of day, the amount of light in public spaces was studied. Aerial photographs in 1956 at 4 5 o'clock in the afternoon and aerial photos of 1973 at 10-11 o'clock in the morning were provided. Examining the conditions of public spaces in these two pictures suggest that most of the spaces (more than 50 percent are in the shade. (Fig. 17), the shadow formed in particular under two causes: one is the height difference of buildings around the space; that in most cases, a building higher than the rest of the buildings had been created. And the other cause is formation of public space. On one hand fit width and height of the space caused shadows and other organic forms and irregular protrusion of space and space provides more shadow. At this point, it should be noted that the presence of high buildings at the edge of space disturbs the prevailing winds and the flow toward the ground level. Another important issue in the design of these spaces, along with environmental considerations, is people presence and providing seating furniture in the space. The remaining photos of the Dehdashti and Kuti neighborhoods display this issue (Fig. 14 and 15). It should be noted that in the context of Bushehr with the openings of buildings to public spaces lead to form specific identity of these spaces in the design introverted and extroverted northern part in hot and dry regions. The opening of the openings into the public space provides common areas in several aspects. However, due to the strategic position of the historic tissues of Bushehr, these openings should not be ignored as defensive aspect. Aside from the issues raised in climatic considerations, the formation of the organic tissue as well spaces and passageways increased the sense space and historic tissues of Bushehr takes place in relation to this topic. The situation can be observed in the streets surrounding public spaces and streets that once open to the sea.
Fig. 13: Behbahani’s neighborhood, source: Bushehr Cultural Heritage

Fig. 14: Sheikh Saadoun neighborhood, source: ibid

Fig. 15: Jome Mosque, source: ibid
role of climatic factors in the formation of passages

The most important factor in the formation of passages network is climatic conditions, including temperature, humidity and the wind direction. Harmony in the width and height of the passages is in such a way that passages are in the shade at most times of day. Aerial photos of 1956 and 1973 clearly shows this. Proportions of width to height ratio is at least 1 to 2 as the ratio becomes 1 to 6 too (Figure 17). The numerous intersections in passages in this tissue with open spaces, provide the possibility of wind distribution in the streets. Main thoroughfares are oriented facing the sea to get the maximum wind and provide the possibility of further sea breeze into the tissue. Narrow passages in addition to providing shade allow more draft. Arrangement of buildings on the edge of the passages do not follow passage length. This leads more wind collision and its entrance to the interior space of building. The emergence of the first floor in buildings can be seen clearly as the result of this issue. In these tissues, Blind alley is rare seen and blocks are surrounded by streets to enjoy maximum air flow. Drafts in addition to lowering the humidity of the air and creating comfort temperature, absorb humidity of on both sides of the alley. Drying walls due to the use of local building materials, porous rocks, absorbs the moisture of interior space. In fact, by creating drafts in passages, moisture of interior space will be diverted through the wall.

spatial order in buildings masses

Building methods, forms and materials in the architectural tissues of Bushehr depicted a coordinated and integrated view as the spatial structure of the tissue in response to residents living culture, environmental and climatic condition of the region is unique; which is in consistent with climatic extroversion and biological introversion.
Fig 17: Shading in ancient tissues of Bushehr, source: ibid
Buildings are in two or three floors with coordinated height and central courtyard and rooms with doors open to the alley on the one side and on the other side to the yard; and moisture in the ground floor and air flow on top, brought life to the upper floors; and ground floor was used for storage, kitchen, bathroom and so on. One of the important elements in Bushehr architecture was central courtyard which has special characteristics. First, the yard is quite regular. Second, the size of the yard is not very large for shading. Third, there is a round porch is a central courtyard that is the interface between the courtyard and the building, the porch is used for shading in the downstairs, however, it provides a space in upstairs, which makes the central courtyard usable, which means that rooms are connected with the yard as a major supplier of light. And in a normal house with a medium scale, the elements of yard include: garden, water well, tank and cistern. The central courtyard, in addition to organizing different spaces and linking their performance, has the role of ventilation for the flow of air that enters the house. Drafts provide the ability to tolerate heat and humid air. Narrow and tall streets and full shade made it possible so that refreshing sea breeze flows into depth of the port houses. Extraversion and joint bodies in neighborhoods with the goal of having the lowest maximum use of air flow, made tissues of Bushehr separated into blocks, from one to several residential units in each one. Blocks with an irregular network of small streets that cross squares and reach the sea. The intelligent architecture of Bushehr in biological culture that compliance with environmental conditions is visible. The establishment of different functions together, despite the small size of the city and maintaining the characteristics of typical architecture, has doubled the tissues richness. Mosques and community centers, markets and businesses, Amiriyeh and consulates together constitute a variety of valuable housing elements of this historical tissue. (Jabarnia et al., 1999: 148)

floors and height
One aspect of tissue height adjustment is associated with the climatic location and topography of the site. The view to the height of buildings in the tissue implies that overall height difference as can be seen in the tissue, besides the proximity of the floors in the same buildings. The height difference can be seen on a smaller scale residential units. From the viewpoint of sunshine, the shading of buildings on each other is quite clear with height differences. This issue corresponded to receive less heat in buildings with east-west orientation. The outdoor shading in addition to bringing a comfort, cool items during the day, followed by heat transfer from the human body to the wall and providing the thermal comfort. The height of buildings in the tissue reveals another issue, which is the placement of tall buildings, which are mainly aristocratic house, among shorter buildings. This particular issue can be seen on the edge of open spaces. The special role of height difference can be seen in the wind turbulence and wind movement at lower levels. In general, wind patterns in the ancient tissues of Bushehr can be viewed at three levels:

- The first level, the height of wind that enters tissue in collision with high rise buildings.
- The second level, space in the courtyard of the building in floors above the ground floor.
- The third level, open spaces in pathways and tissue that has the greatest impact on humans in space.

The distribution of the height of buildings in the tissue clearly shows the intelligently design of tissues.

UBRN DESIGN IN THE NEW TOWN OF ALI SHAHR
Revised plan in Bushehr was approved by the High Council of Architecture in Iran in March 1985. Under the terms of the decree, it was decided that "due to the natural limits of land for urban development and occupation of the city of Bushehr by military installations" studies on the "overflow population transfer to further local, especially in remote areas or Choghadak located in eastern Bushehr, or transferring the air force to other convenient place and freeing up the occupied land for the development of the city" be carried out.

It is important to mention here that not only the development of the northern part, the core of the city, since the establishment of naval and air forces in the area was limited, but also the development of
southern part of the city after the establishment of a nuclear energy center in the southern point of the island is very limited. Thus, for the sake of safety rules, urban residential areas are prohibited to be made up to 10 km radius from the center of atomic energy plant and the southern part of the city, where it is located just outside the 10 km radius of the plant, although is authorized under development, but is placed under density restrictions. Bushehr Island is covered by water in some seasons and building construction is not impossible, it will have problems at least that puts only two ways for continued development of the city of Bushehr ahead. These include: (Consulting Engineers of City and planning, 1382: 141)

1. The transfer of the Air Force to other convenient place

2. Development of city on the height, i.e. raising population density and building, only in the northern part of the town

Both these solutions seemed impossible due to technical and financial constraints because, firstly, defense and military installations located in the central area eliminated the possibility of joining two sections of the city is and transferring them requires huge investments and secondly, increasing the density and urban development in height (in contrast with the perceived limitations of the terms of atomic energy) requires engagement with complex issues in the areas of social ownership issues related to living in apartments, allocating a large amount of urban land for public use, a general revision of the existing municipal facilities and equipment, etc.. To this end, in 1986 the initial ideas of locating a new city as in east of Bushehr was formed under the name of Ali Shahr.

Fig 19: The combination of mass and space in the historical tissues of Bushehr, source: ibid

Challenges in the spatial organization of the extensive area
Vision on how urban design and architectures of monuments and generally elements of physical-spatial of Ali Shahr, considers the need to review and analyze the concept and architecture of the surrounding urban tissues necessary and in this regard Bushehr as a center and main reference in shaping the new town of Ali Shahr has a special place. Thus, as has been mentioned many times in this article studying topics related to the field of urban planning and architectural tissues of Bushehr is an important issue. Although the format, scope and content of the new town of Ali Shahr is far from visual identity and urban
landscape, a new attitude in this regard and presenting the achievements of the previous phases of the project for use on different surfaces must be considered. Ali Shahr existing urban tissues represents a preferred organization of distribution and lack of physical space, which lacks the most important characteristic of a city. This needs considerations due to the fact that Bushehr old tissues and historical sites are compact. As noted above, the compression in the local tissues in addition to a physical-spatial organization, has a significant role in coping with adverse climatic conditions. In order to revise and review the distribution of blocks and communication networks in low scales space at local level, in other words changing the concept of neighborhood unit can be effective in modifying the physical structure of the city, readability and richness of urban landscape and consequently improves the quality of the urban environment. Determination and locating public open spaces and revising and redesigning abandoned spaces in neighborhoods of the city by using climatic patterns in ancient tissues of Bushehr are including subjects in this study.

Fig 20. Design platform location in sphere of influence, source: ibid

assessment of current status of direct sphere of influence
reasons for selection of project site
New Town of Ali Shahr Development Company with the policy of urban development in order to achieve the population vision was settled at the end of the Fourth Development Plan (25 thousands) and impetus for the development of so-called urban development put the plan preparation of neighborhood 2 of phase 4 in Ali Shahr in their program priorities to provide groundwork for the development of the land in the north of the city in the near future. It should be noted that the project site within the detailed plan is prepared by the consulting engineers of Aseman Naghshine firm.
general characteristics of neighborhood 2 of phase 4 in Ali Shahr
According to urban divisions in the detailed plan prepared by consulting engineers of Aseman Naghshine firm in 2004 that was approved by the Supreme Council of Architecture and Urban Planning, project platform is located (sphere of influence) at Phase 4 of Ali Shahr. This area is located in the northern end of the detailed plan and is connected 32 meters St. from the north and northwest and is connected to artery of the two branches from the East, South and South-West. 125 hectares area was considered to accommodate a population of 16625 people. The area is divided into four quarters. An area of 36 hectares and a population of 4788 people is considered in the neighborhood 2. Neighborhood 2 is limited in the north and north-west to the detailed plan and from the south and east to artery bypass 2. According to national documents, educational spaces such as kindergartens, primary schools (boys and girls) should be foreseen in this area. Commercial services related to the daily purchase can be predicted at the center of the neighborhood. Worship spaces such as mosques and religious-cultural services must be considered in the neighborhood. The creation of parks and gardens in the neighborhood are the needs of children in the neighborhood (consulting engineers of Aseman Naghshine, 2002: 95).

<table>
<thead>
<tr>
<th>Gross density (Persons per hectare)</th>
<th>population</th>
<th>Area</th>
<th>neighborhood</th>
</tr>
</thead>
<tbody>
<tr>
<td>133</td>
<td>3724</td>
<td>28 hectares</td>
<td>1</td>
</tr>
<tr>
<td>133</td>
<td>4788</td>
<td>36 hectares</td>
<td>2</td>
</tr>
<tr>
<td>133</td>
<td>3990</td>
<td>30 hectares</td>
<td>3</td>
</tr>
<tr>
<td>133</td>
<td>4389</td>
<td>33 hectares</td>
<td>4</td>
</tr>
<tr>
<td>133</td>
<td>16625</td>
<td>125 hectares</td>
<td>Total area</td>
</tr>
</tbody>
</table>
formulating conceptual solutions

The design requires a complex mental process of ability to pinpoint a wide variety of information, their combination in a coherent body of ideas and ultimately the creation of implemented form of ideas. As mentioned many times throughout this article, the influence of climatic characteristics on human settlements are some factors that affect the qualitative and quantitative characteristics of settlements to a large extent. These factors in the historic tissues of Bushehr and public spaces made living in the harsh climate easily tolerable and has granted an identity to the city's architecture and urban planning.

New look to architecture and urban planning at Bushehr and Ali Shahr indicate distortion and to some extent ignoring the principles and criteria of this city in tissue formation. This discontinuity, is caused by the look of modernist in urban design that nearly affected all new tissues. Thus, as noted emphatically design solutions in new towns without taking into account climatic issues, the city and its neighborhoods make tissues inefficient and uninhabitable and anonymous.

Given the importance of this issue, this research discussed principles and standards of urban planning and architecture of Bushehr under the influence of climatic factors on two levels, and in connection with the development and analysis of climate data. In urban areas, factors such as adherence to the structure and form of the climate, space and military organizations height, density, plants, extraversion or introversion trait of tissues, passages and corridors, neighborhoods and open spaces and centers and in the field of architecture factors such as the distribution of the components, the relationship with the public realm, diversity of housing, building materials and colors, architectural proportions, shading and climatic comfort, ventilation etc. are examined.

The article in regard to the background and location of Ali Shahr, needs of today's residents as well as changes in the use of space, the concept of public space through time and space were classified in form of concept ideas and solutions and presented under two different options (alternative) design approach for all of a pice urban design; as they can be useful since they are derived from the heart of the historic tissues of Bushehr. In designing the options we tried to achieve opposing ideas with a coherent and comprehensive structure. Design is based on a conceptual project and aimed to achieve a familiar atmosphere but with the new image in terms of climatic factors. In another sense a new expression is designed to differentiate its form but keeps its nostalgic atmosphere of the past. Perhaps this description of ideas in the minds of the authors of may not express all aspects.
Fig 22: semi-public spaces (local streets) and semi-private space (shared courtyard) - Neighborhood 2 phase 4 alternatives (2) Source: authors

Climatic design principles and instruments in Ali Shahr
As stated climatic conditions along with other environmental factors are the most important factors in the formation of cities. Cities and urban elements and their performance have been affected by climatic elements and factors and this influence was one-way prior to the formation of big cities but then they became influential on climatic conditions and have created climate change in their environment.

With the effect of Bushehr climate on urban design of ancient tissues, climatic effects and their use in the design and development of neighborhood 2 of phase 4 of Ali Shahr were determined. Through climatic factors one may achieve the most appropriate ways and forms such as living spaces and architecture, monuments intervals for network access and increasing the amount of shading in Ali Shahr.

**protect buildings against hot air**
- Construction of buildings against the hot air flow
- Confined spaces often used in hot periods with heavy materials and insulation, and used spaces with light materials
- Predict the compact and dense buildings
- Separate exothermic spaces, like kitchen
- Use thermal insulation with any type of materials preferably local materials
- design the windows with low width and high height
- The use of double-glazed glass
- use wooden window or mobile networks thermal insulation in the window
- Use double-shell roof
- Use bright colors on facades and walls

**building protection against the sun**
- Avoid the slopes facing the East or West for construction
- Establishment of building in minimized direction of sunlight
- Choose appropriate materials for spaces around the building to minimize heat
- Use deciduous trees to create shade on buildings in periods of cooling and warming
- Use right physical shape to reduce the external surfaces facing the East and West (east – west building plans)
- Greater use of common walls in the building and create a compact tissue
- Indoor parking space rather than garage and putting it in the western part of the building
- Open main spaces located in the shadow to the courtyard
- using the ventilation space under the roof, double layered roof with thermal insulation
- Use bright colors and not too rough surface on the roof and exterior walls facing the sun

- Avoid creating windows in the roof, except in the summer if it is quite shadow

- Avoid creating windows, especially in the eastern and western facades, otherwise limit the number and size of such windows and using vertical shades for them.

- Use roof saliency, loggia or balcony to create the perfect shade on the outer surface of the window glass and the walls of the openings facing the sun

- Use proper canopy (if possible, external shading devices) for glass surfaces and openings

- Use wooden windows or mobile insulation grids in windows

- Use outer space, to use when the air is fine

- Use the console at the proper height, especially in the body adjacent to walkways to create shading

**create drafts in interior spaces**
- maximize air flow around the buildings by creating a proper distance between them

- The establishment of structures in direction of favorable winds and using high ceilings

- Design elements of the area so that plants direct the favorable winds inside

- Plan and organize the building plan in a way that allows air circulation around the building

- Planning the building for maximum ventilation at the top, bottom and inside the building

- Using plans with thin sections

- Use the stack (increasing the height of the central spaces)

- Doors between rooms by the controllable walls to direct the air flow

- The use of large and opening doors and windows

- The use of upper and lower windows to improve ventilation conditions at night

- use at least two windows, one facing the wind and opposite one

- use the external space due to favorable breezes

**prevent humidity increase**
- Avoid covers in parts in which winds direct the moisture to interior spaces

- Control humidity of plants by air stream

- Use permeable materials in the bottom of premises and prevent water retention in areas under the sunlight
CONCLUSION

Urban development by new towns policy in the country have a major impact on the environment and living conditions for humans, animals and plants. Most of these changes in the fields of medicine, agriculture and engineering has been surveyed by experts. The major impact of climatic conditions on new towns and settlements and urban development plans is considered little. The purpose of this article, as was repeatedly pointed is to reduce the negative impact of the environmental condition of Ali Shahr through the exploitation of climate patterns in the old tissues of Bushehr in order to control solar radiation, cooling and building natural draft. And the ultimate goal is to create umbrella shade or a region free of solar radiation which is suitable to live in hot and humid areas. As noted above, the effects of climate on the type and form of development, to achieve design strategies in urban spaces and architecture is essential to walking, mobility and activities of people in urban areas in terms of convenience so that life within buildings under normal conditions and with less reliance on mechanical ventilation devices be possible.

Traditional solutions in response to the climate in the design of cities and buildings has been forgotten. In urban areas due to population growth in these areas and changes in lifestyle and vital resources such as water, urban management in new cities need to be revised in terms of using climatic patterns of ancient tissues to improve the design of cities and buildings. Although methods to create comfort by using climatic factors such as wind and shade are well-known to some extent in the design of buildings, optimal use of microclimate in urban spaces due to the nature and its complexity is difficult problem. This arises from the use of urban spaces during hot and humid periods of year in areas such as Bushehr and Ali Shahr is very high and without the use of urban spaces dynamism and urban vitality of the area will diminish.
Thus creating balance and somewhat achieving comfort in urban spaces, such as inside buildings by the city managers will be necessary; and taking advantage of climatic patterns in the region is very important.

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OPTIMUM DESIGN OF 2-D REINFORCED CONCRETE FRAMES USING A GENETIC ALGORITHM

Masih Izadi Niaki
M.Sc. graduate, Dept. of Civil Engineering, Shiraz University, Shiraz, Iran

Mahmood Reza Maheri
Professor, School of Engineering, Shiraz University, Shiraz, Iran

Moein Bagheri
M.Sc. graduate, Dept. of Civil Engineering, National University of Malaysia, UKM, Malaysia

M.izadiniaki@gmail.com

ABSTRACT
Construction of concrete structures involves at least three different materials: concrete, steel and formwork. A large number of parameters, therefore, have to be dealt with in proportioning a reinforced concrete element, including width, depth, number and diameter of rebar. Consequently, together with experience, trial and adjustment are necessary in the choice of concrete sections. A trial section has to be chosen for each critical location in a structural system. The trial section has to be analyzed to determine if its nominal resisting strength is adequate to carry out the applied factored loads. Since more than one trial is often necessary to arrive at the required section, this process is time consuming. Also, the final design of a practiced designer is different from that of a beginner and it is never known whether the result is an optimum design. The objective of this research is to design optimally reinforced concrete frames that satisfy the limitations and specifications of the American Concrete Institute (ACI) Building Code and Commentary using a Genetic Algorithm (GA). The GA used in this study has an adaptive penalty function. New options are added to the GA, including tournament selection with specified conditions or repairing operator that acts on beams and columns to accelerate convergence of the program. Design results show that the algorithm presented here compares advantageously with classic methods or other GA algorithms used previously for optimum design of concrete frames.

Keywords: concrete frame, genetic algorithm, optimization, design, reinforced concrete.

INTRODUCTION
In the design of RC frames in proportioning a reinforced concrete element, members’ width and depth and the number and diameter of bars have to be dealt with. Consequently, trial and adjustment are necessary in the choice of concrete sections.

The objective of this paper is to design optimally reinforced concrete frames that comply with the limitations and specifications of the American Concrete Institute (ACI) Building Code and Commentary using a Genetic Algorithm (GA). The optimization of the reinforced concrete members is more challenging than the optimization of members made of isotropic materials, such as steel. The problem has been considered by several researchers. Krishnamoorty and Mosi (1981) presented cost optimization of two-dimensional frames with rectangular cross-sections using sequential unconstrained minimization technique (SUMT). They considered nonlinear constitutive relationships but had no actual design code. Their cost function includes only the material costs of concrete, steel reinforcement and formwork. Moharrami and Grierson (1993) carried out minimum cost design of RC building frames subjected to vertical and lateral loading, based on the ACI code ("Building" 1989) using the Optimality Criteria approach. The columns had rectangular cross-sections and the beams were considered rectangular, L or T shapes. Their design variables were the width, depth and longitudinal steel reinforcement of the beams and columns. Their cost function included the material...
costs of the concrete, reinforcement and the formwork. Fadaee and Grierson (1996) presented minimum cost design of three-dimensional RC frames with members subjected to biaxial moments and shear forces based on the ACI code ("Building" 1995). Beams and columns were assumed to have rectangular sections. The cost function included the material costs of concrete, steel and the formwork. Later, Camp, Pezeshk and Hanson (2003) discussed optimum flexural design of two-dimensional reinforced concrete frames using a genetic algorithm (GA). The frames were subjected to vertical and lateral loads and their beams and columns had rectangular sections. They applied a modified version of GA to achieve a low-cost design according to the ACI code ("Building" 1999). The design variables used were depth and width of the sections and the number and diameter of the reinforcement bars. Their cost function included the material costs of the concrete, reinforcement and the formwork. Lee and Ahn (2003) also minimized the cost of two-dimensional reinforced concrete frames subjected to gravity and lateral loading based on the ACI code ("Building" 1999) and the UBC (1997) using GA. Beams and columns had rectangular sections and their design variables were depth and width of the sections and area of the reinforcement. Their cost function included the material costs of the concrete, reinforcement and the formwork. Chan and Wang (2006) also carried out optimum nonlinear stiffness design of two-dimensional tall reinforced concrete buildings under service loads. Beams and columns had rectangular sections and area of the reinforcement was assumed as constant. The cost function also included only the concrete cost. Alqedra, Arafa and Ismail (2011) implemented GA to optimize the cost of Prestressed Concrete (PC) beams and Reinforced Concrete (RC) beams. The design variables of RC simple beams were beam width, effective beam depth, number of flexural bars and reinforcement bar diameter. Number of tendons, tendon diameter and eccentricity of the center of gravity of tendons represented the design variables of PC simple beams. The findings showed superiority of using GA technique in cost optimization over classical optimization method. Yousif and Najem (2013) applied GA for the optimum cost design of reinforced concrete continuous beams. Their variables were the dimensions and reinforcing steel and they considered the flexural, shear, and torsion effects on the beam. The produced optimum design satisfied the strength, serviceability, ductility, durability, and other constraints related to good design and detailing practice. Kaveh and Sabzi (2015) used Big Bang – Big Crunch algorithm to optimal design of reinforced concrete planar frames under the gravity and lateral loads, then they compared the results to those of GA. Beams and columns assumed to have rectangular sections.

**FORMULATION OF THE COST FUNCTION**

The first step in an optimization is determination of the objective function. In this research, this function includes costs of the concrete, steel and formwork for beams and columns, where formwork cost includes labor cost. Beams and columns have rectangular sections. The design variables are depth and width of the sections and number and diameter of the reinforcement bars, hence the reinforcement topology can be determined.

Description of the cost function for beams is as follows,

Minimize $F$:

$$F = C_c l_b h_b + C_s (l_{sb} A_{sb} + l_{bmn} A_{bmn} + l_{bh} A_{bhr}) + C_f l_b (2h_b + b_h)$$  \hspace{1cm} (1)

Subjected to $c_{lb} \leq 0$, $c_{2b} \leq 0$ ... $c_{nb} \leq 0$

Where, $C_c$ is cost of the concrete per cubic foot; $C_s$ is cost of the steel per cubic foot; $C_f$ is cost of the formwork per square foot (including labor); $l_b$ is length of the beam; $b_h$ is width of the beam and $h_b$ is height of the beam. In this research, beams are subdivided into three segments: the left segment, the middle segment and the right segment. According to this subdivision, $l_{lb}$ is length of the left segment of beam; also $A_{sb}$ is area of the reinforcement for the left segment. Similarly $l_{bmn}$, $l_{bh}$, $A_{bmn}$ and $A_{bhr}$ are length of the middle segment, length of the right segment, area of the reinforcement for the middle segment, and area of the reinforcement for the right segment, respectively.
segment and area of the reinforcement for the right segment, respectively. \(c_{1b}, c_{2b}, \ldots, c_{nb}\) are beams constraint functions according to specifications and limitations of the ACI-318-05 code and commentary (ACI-318R-05).

Description of the cost function for columns is as follows,

Minimize \(F\):

\[
F = C_{1c} l_{c} h_{c} + C_{2c} A_{sc} + 2C_{f} l_{c}(h_{c} + b_{c})
\]

Subjected to \(c_{1c} \leq 0, c_{2c} \leq 0, ..., c_{nc} \leq 0\)

Where, \(l_{c}\) is length of the column; \(b_{c}\) is width of the column; \(h_{c}\) is height of the column and \(A_{sc}\) is area of the reinforcement. \(c_{1c}, c_{2c}, \ldots, c_{nc}\) are columns constraint functions according to specifications and limitations of the ACI-318-05 code and commentary (ACI-318R-05).

**PENALTY FUNCTION**

All engineering optimization problems have constraints to satisfy, whereas GA is basically introduced for unconstrained optimization. To overcome this problem and optimize engineering problems with GA, we can apply penalty functions which are proposed for constrained problems to convert them into unconstrained problems. Several different ideas have been proposed to improve penalty function methods for engineering constrained optimization problems. In this research, the method introduced by Bean and Hadj-Alouane (1992) is employed. Their penalty function is revised, based on the feasibility or infeasibility of the best penalized solution during recent generations. Their penalty function allows either an increase or a decrease in the imposed penalty during evolution as shown below. This involves the selection of two constants, \(\beta_1\) and \(\beta_2\) (\(\beta_1 > \beta_2 > 1\)), to adaptively update the penalty function multiplier, and the evaluation of the feasibility of the best solution over successive intervals of \(N_f\) generations. As the search progresses, in every \(N_f\) generation the penalty function multiplier is updated, based on whether the best solution was feasible during that interval. Specifically, the penalty function is,

\[
f_p(X, k) = f(X) + \sum_{i=1}^{K} \lambda_k d_i^k
\]

\[
\begin{align*}
\lambda_k & = \begin{cases} 
\lambda_k, & \text{if previous } N_f \text{ generations have infeasible best solution} \\
\lambda_k \beta_1, & \text{if previous } N_f \text{ generations have feasible best solution} \\
\lambda_k / \beta_2, & \text{if previous } N_f \text{ generations have feasible best solution} \\
\lambda_k, & \text{otherwise}
\end{cases} \\
\lambda_k & = \begin{cases} 
\beta_1 > \beta_2 > 1
\end{cases}
\end{align*}
\]

It is recommended that \(\beta_1 = 5\) and \(\beta_2 = 3\).

The total cost function can then be determined as,
\[ F_T = F + \sum_{i=1}^{m} \lambda_i d_i^k \] (4)

After analyzing each frame, the feasibility of the frame can be assessed. If the solution is infeasible, it is penalized; otherwise the penalty term in the cost function is set at zero.

**RAME ELEMENTS SPECIFICATIONS**

**Beams**

Flexural moment varies along a beam in a frame. At supports, the negative moments govern, whereas, in the middle of the beam it is the positive moment that governs. For this reason, beams are subdivided into three segments, left, middle and right as shown in Fig. 1,

![Beams subdivision along their lengths.](image)

Fig. 1. Beams subdivision along their lengths.

Each segment can be designed according to its maximum moment, thereby individual longitudinal reinforcement for each segment can be found. Notice that width and depth of the section are constant along the beam.

Beams are assumed to have rectangular sections and the longitudinal reinforcements of the beams are arranged in only one layer for tensile and compression steel. Number and size of the bars in different rows are not the same but all bars in a row are of the same size. Beams section specifications are shown in Fig. 2,

![Beams section specifications.](image)

Fig. 2. Beams section specifications.

Moreover, shear reinforcement will be calculated for beams. Indeed, at first, beams dimensions and longitudinal reinforcements will be produced by GA and then the shear reinforcement will be calculated for the given specifications. GA does not produce shear reinforcement; it produces only section dimensions and number and size of the longitudinal bars. Therefore, for each beam there exist fourteen variables, two for width and depth of the section for the whole beam and four for number and size of the longitudinal bars in each segment.

**Columns**

Columns are considered to have a uniform section along their height. In other words, their section dimensions and number and size of the longitudinal bars are constant along their length. Similar to beams, columns have rectangular sections and their longitudinal reinforcements are arranged in only one layer for tensile and compression steel. But unlike beams, number and size of the bars in different rows are of the same size. According to the ACI, minimum number of longitudinal bars in columns is assumed to be four, two for each row.
Production of section dimensions, number of longitudinal bars and their sizes and finally calculation of shear reinforcement is the same as that of the beams. Consequently four variables participate in columns design, two for width and height of the section and two for number and size of the longitudinal bars.

**REINFORCED CONCRETE FRAMES AND RELATED CONSTRAINTS**

All engineering structures have to be resistant under the applied loads. They must carry loads safely, not deform excessively. ACI-318-05 code, used in this research, outlines relations needed for design of concrete structures. These relations form constraints which are applied to beams, columns and concrete frame.

**Beams constraints**

1. Moment constraint: As mentioned before, flexural moment varies along the beams. Accordingly, this constraint is calculated for the left, the middle and the right segment of beams.

2. Maximum spacing for crack control: According to the Portland Cement Association (PCA) notes on ACI, the spacing of reinforcement (Grade 60 bars) closest to a surface in tension shall not exceed that given in tables 9A-1 and 9A-2 of the PCA notes on ACI.

3. Maximum deflection constraint: According to the ACI code, computed deflection of a beam, not supporting or attached to nonstructural elements likely to be damaged by large deflections, shall not exceed $f/360$.

4. Minimum width constraint: Minimum clear spacing between parallel bars in a layer shall be $d_b$, but not less than 1 inch.

5. In this research, widths of the beams are restricted to widths of their associated columns.

6. Another restriction applied to the beams is that their widths are limited to their depths.

7. Maximum depth constraint: "It is also common practice in design of reinforced concrete beams to fix the maximum ratio of the depth to the width of the beam. Typically, $h_{\text{max}}/b$ varies from 2 to 3", [3]. In this research this ratio is set at 2.5.

8. Minimum shear reinforcement constraint: Shear reinforcement designed for specified section characteristics shall not be less than minimum shear reinforcement specified by ACI-318-05. The constraint m8 defined for this case is calculated for the left and the right support shear forces separately.

9. Maximum shear reinforcement constraint: Shear reinforcement must satisfy the relation below,

$$V_s \leq 4V_c$$  \hspace{1cm} (5)

**Columns constraints**

1. Minimum longitudinal reinforcement ratio constraint: Longitudinal reinforcement ratio of the columns shall not be less than 0.01.

2. Maximum longitudinal reinforcement ratio constraint: Longitudinal reinforcement ratio of the columns shall not be greater than 0.08.

3. Minimum width constraint: In tied reinforced compression members, clear distance between longitudinal bars shall be not less than $1.5d_b$, nor less than 1.5 inches.

4. Constraint related to column interaction diagram: Columns in structural systems are rarely subjected to pure axial force; rather a combination of axial force and flexural moment is exerted to columns. This matter affects columns strength, and interaction of axial force and flexural moment has
essential role in calculation of columns capacity. For design purpose, column load-moment strength interaction is used. If the factored axial force and bending moment lies inside the design strength diagram, the capacity of the column is satisfactory.

5. Since the frame under study is a two-dimensional frame, widths of the columns are limited to their depth.

6. Minimum shear reinforcement constraint: Shear forces are not the major criterion in columns design. Indeed columns are designed for axial force and bending moments, then they are checked for shear forces. Similar to beams, shear reinforcement of the column shall not be less than the minimum permitted shear reinforcement specified by ACI-318-05.

7. Maximum shear reinforcement constraint: Shear reinforcement must satisfy the relation below,

\[ V_s \leq 4V_c \] (6)

Frame constraints
Besides beams and columns constraints, stability of the frame is considered as a whole frame constraint. If the frame is not stable laterally, the related constraint is applied to the frame.

GENETIC ALGORITHM
The genetic algorithm used in this research has an adaptive penalty function that has been already explained. The crossover operator has the probability of 0.8, and three types of operators; one-point, two-point and uniform operators have been used. To determine which type of crossover is used, a two-bit binary string is produced. The string "00" refers to one-point crossover, the strings "01" and "10" refer to two-point crossover and finally the string "11" refers to a uniform crossover. One- and two-point crossovers are the least disruptive to the population, while uniform crossover is the most disruptive operator. The mutation rate varies between 0.008 and 0.02. If previous generation has feasible best solution, the rate is 0.008, otherwise the rate is 0.02. Selection operator is a binary tournament selection with specific conditions.

Sometimes in design procedure, the designer comes across sections that violate constraints, but minor changes in section depth, section width, number of bars or diameter of bars makes it a convenient section. This problem has been dealt with adding a new operator to GA called repairing.

DESIGN EXAMPLES
Uniaxial short-tied columns
The first example is a problem presented by Zielinski et al. (1995). The aim is to design three uniaxial short-tied columns, each column is subjected to a factored axial force, \( P_f \), and a factored bending moment, \( M_f \). Loadings and material properties for each column is listed in Table 1.

<table>
<thead>
<tr>
<th>Design example</th>
<th>( d' ) (in)</th>
<th>( f_s ) (psi)</th>
<th>( f_y ) (psi)</th>
<th>( P_f ) (lb)</th>
<th>( M_f ) (ft-lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.56</td>
<td>58,015</td>
<td>3,626</td>
<td>553,030</td>
<td>326,740</td>
</tr>
<tr>
<td>2</td>
<td>2.76</td>
<td>58,015</td>
<td>4,351</td>
<td>400,160</td>
<td>266,597</td>
</tr>
<tr>
<td>3</td>
<td>2.95</td>
<td>58,015</td>
<td>4,351</td>
<td>449,618</td>
<td>414,510</td>
</tr>
</tbody>
</table>

Values for the column dimensions in inches range from \( 7 \leq b \leq 30 \) and \( 7 \leq h \leq 30 \). Camp, Pezeshk and Hanson (2003) designed this problem according to ACI-318-99, using a modified version of GA.
In this research the designed columns have been checked by drawing their exact interaction diagrams. These diagrams show that the columns have acceptable design and their axial forces and bending moments lie inside the design diagrams. Comparison between the exact interaction diagrams and the interaction diagrams drawn in this research, shows that the latter has good accuracy. Fig. 3 shows both diagrams and the point related to loading for the first column.

\[ P (\text{lb}) \]

\[ P = 553030 \text{ (lb)} \]

\[ M = 3920740 \text{ (in-lb)} \]

Fig. 3. First column interaction diagrams and its point of loading.

Table 2 lists the design results. It should be noted that the costs in the table are for 1 foot height of columns. Columns "Result (Ave)", "Result (Min)" and "Result (Max)" show decrease or increase percents in cost for average, minimum and maximum results attained in this research versus result attained by Camp, Pezeshk and Hanson (2003), respectively. All costs are in terms of US dollar.

<table>
<thead>
<tr>
<th>column 1</th>
<th>Population size</th>
<th>Number of Generations</th>
<th>Ave-Cost ($)</th>
<th>Min-Cost ($)</th>
<th>Max-Cost ($)</th>
<th>Min-Size (in)</th>
<th>Ax (in2)</th>
<th>Time (sec)</th>
<th>Result (Ave)</th>
<th>Result (Min)</th>
<th>Result (Max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camp, Pezeshk, Hanson</td>
<td>–</td>
<td>–</td>
<td>34.31</td>
<td>–</td>
<td>8.5 * 29.5</td>
<td>4</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>This research</td>
<td>200</td>
<td>50</td>
<td>39.81</td>
<td>39.38</td>
<td>41.12</td>
<td>13 * 30</td>
<td>4</td>
<td>36 - 37</td>
<td>16.03%</td>
<td>14.78%</td>
<td>19.85%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>column 2</th>
<th>Population size</th>
<th>Number of Generations</th>
<th>Ave-Cost ($)</th>
<th>Min-Cost ($)</th>
<th>Max-Cost ($)</th>
<th>Min-Size (in)</th>
<th>Ax (in2)</th>
<th>Time (sec)</th>
<th>Result (Ave)</th>
<th>Result (Min)</th>
<th>Result (Max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camp, Pezeshk, Hanson</td>
<td>–</td>
<td>–</td>
<td>32.18</td>
<td>–</td>
<td>12 * 25</td>
<td>3.14</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>This research</td>
<td>200</td>
<td>50</td>
<td>30.98</td>
<td>30.34</td>
<td>31.68</td>
<td>9.5 * 28.5</td>
<td>2.66</td>
<td>36 - 37</td>
<td>-3.73%</td>
<td>-5.72%</td>
<td>-1.55%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>column 3</th>
<th>Population size</th>
<th>Number of Generations</th>
<th>Ave-Cost ($)</th>
<th>Min-Cost ($)</th>
<th>Max-Cost ($)</th>
<th>Min-Size (in)</th>
<th>Ax (in2)</th>
<th>Time (sec)</th>
<th>Result (Ave)</th>
<th>Result (Min)</th>
<th>Result (Max)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camp, Pezeshk, Hanson</td>
<td>–</td>
<td>–</td>
<td>38.01</td>
<td>–</td>
<td>12 * 29.5</td>
<td>4</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>This research</td>
<td>200</td>
<td>50</td>
<td>39.07</td>
<td>39.04</td>
<td>39.65</td>
<td>13 * 30</td>
<td>3.6</td>
<td>36 - 37</td>
<td>2.79%</td>
<td>0.08%</td>
<td>4.34%</td>
</tr>
</tbody>
</table>

Table 2. Design results for uniaxial short-tied columns.

Two-Bay six-story frame

Fig. 4 shows a two-bay six-story reinforced concrete frame designed by Rajeev and Krishnamoorthy (1998) based on Indian Standard Code of Practice for Reinforced Concrete (IS 1978) design code. The frame was also designed by Camp, Pezeshk and Hanson (2003) based on the ACI-318-99 code using a modified version of GA.
The dimensions of the frame are: \( h = 4m(13.12\text{ ft}) \), \( L_1 = 6m(19.69\text{ ft}) \), and \( L_2 = 4m (13.12\text{ ft}) \). A factored uniformly distributed vertical load of \( w = 30KN/m(2056lb/ft) \) is applied to every beam in the frame. In addition, a lateral load of \( P = 10KN(2248lb) \) is applied to each story. The cost of concrete, steel and formwork is estimated as \( \text{US}\$735/m^2(\text{US}\$20.81/ft^3) \), \( \text{US}\$7.1/kg (\text{US}\$1578/ft^3) \), and \( \text{US}\$54/m^2(\text{US}\$5.02/ft^3) \), respectively (Rajeev and Krishnamoorthy 1998). The unit weight of concrete and steel is approximately 145(lbs/ft^3) and 490(lbs/ft^3). The strength of concrete, \( f'_c = 3000\text{ psi} \), and the yield strength of steel, \( f_y = 60000\text{ psi} \).

Rajeev and Krishnamoorthy (1998) did not consider the shear capacity of the beam sections, while Camp, Pezeshk and Hanson (2003) designed the frame with and without shear capacity of the beam. Table 3 shows design results attained by Camp, Pezeshk and Hanson (2003) when the moment and shear capacities of the beams and the load-moment interaction in the columns with moment magnification due to frame stability and column slenderness have been considered, but they did not design shear reinforcements. Also longitudinal reinforcement was considered constant along the beam.

Table 3. Design results considering column slenderness for two-bay six-story frame attained by Camp, Pezeshk and Hanson (2003) [3].

<table>
<thead>
<tr>
<th>RC-GA4</th>
<th>Beam Group Number</th>
<th>Column Group Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>b (in.)</td>
<td>1 2 3 4</td>
<td>1 2 3</td>
</tr>
<tr>
<td>h (in.)</td>
<td>10 8 9 9</td>
<td>7 8 7</td>
</tr>
<tr>
<td>( A_{t,\text{total}} ) (in.(^2))</td>
<td>4 #4 1 #5 4 #4 1 #6</td>
<td>4 #6 4 #6 6 #4</td>
</tr>
<tr>
<td>( A_{t,\text{ep}} ) (in.(^2))</td>
<td>1 #9 3 #6 3 #7 2 #5</td>
<td></td>
</tr>
<tr>
<td>Cost</td>
<td>$25,471</td>
<td></td>
</tr>
</tbody>
</table>

In this research, there are not any groupings for beams and columns. Each beam and column has its particular section, defined in the previous sections. The moment and shear capacities of the beams and columns have been considered and longitudinal and shear reinforcements have been designed for each element. Fig. 5 shows numbering of the frame elements.
This frame has 240 variables, 168 variables for beams and 72 variables for columns. Design time for 200 generations with a population size of 150 is about 80 min. The best solution has the cost of US$30910. Table 4 lists section dimensions, longitudinal reinforcements designed for some elements of the best solution.

In this table:

- \( b \): Width of the section, \textit{in}.
- \( h \): Height of the section, \textit{in}.
- \( nb\_b\_l/m/r \): Number of bottom bars in the left/mid/right segment.
- \( nb\_u\_l/m/r \): Number of upper bars in the left/mid/right segment.
- \( n\_bar\_b\_l/m/r \): Bottom bars size for the left/mid/right segment.
- \( n\_bar\_u\_l/m/r \): Upper bars size for the left/mid/right segment.

### Table 4. Section dimensions, longitudinal reinforcements designed for some elements of the best solution.

<table>
<thead>
<tr>
<th>No</th>
<th>b (in)</th>
<th>h (in)</th>
<th>nb_b_l</th>
<th>nb_b_m</th>
<th>nb_b_r</th>
<th>nb_u_l</th>
<th>nb_u_m</th>
<th>nb_u_r</th>
<th>n_bar_b_l</th>
<th>n_bar_b_m</th>
<th>n_bar_b_r</th>
<th>n_bar_u_l</th>
<th>n_bar_u_m</th>
<th>n_bar_u_r</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16</td>
<td>18</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>12</td>
<td>22</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
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<tr>
<td>10</td>
<td>9</td>
<td>22</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>15</td>
<td>10</td>
<td>16</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
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<td>6</td>
</tr>
<tr>
<td>24</td>
<td>9</td>
<td>16</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>5</td>
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<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>30</td>
<td>9</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 5 lists shear reinforcements designed for some elements of the best solution.

### Table 5. Shear reinforcements designed for some elements of the best solution.
In this table:

- $A_v\_s\_\dots(l/r)$: Shear reinforcement area in unit length for the left/right half of the elements, $in^2/in$.
- $A_v\_s\_\dots\_\text{min}(l/r)$: Minimum permitted shear reinforcement area in unit length for the left/right half of the elements, $in^2/in$.
- $x\_\cdot5\text{vc}\_\dots(l/r)$: Distance between point with shear force of $0.5\text{vc}$ ($\text{vc}$ is shear resistance provided by concrete) and point with shear force of zero for the left/right half of the elements, $in$.
- $x\_\cdot\text{vc}\_\dots(l/r)$: Distance between point with shear force of $\text{vc}$ ($\text{vc}$ is shear resistance provided by concrete) and point with shear force of zero for the left/right half of the elements, $in$.

In this research, design time has been assumed as a determining parameter, here the selection operator with specified conditions and the new operator repairing has been used to accelerate convergence of the program. In fact, the selection used in this research causes fewer violated constraints to get in a population as the generation number grows, and then these selected populations are repaired by using the repairing operator. As a result, design time for the two-bay six-story frame with 240 variables is about 80 min., whereas the program used by Camp, Pezeshk and Hanson (2003) need 13 hours to design the same frame with only 36 variables.

CONCLUSIONS
In this research, optimal design of reinforced concrete frames regarding cost was considered within the limitations and specifications of the ACI code. To design these frames a GA based optimization program was introduced. This program is shown to be applicable and effective especially for problems with large numbers of constraints. Tournament selection with specified conditions and a new repairing operator was used to decrease the design time. The design time in this research is much shorter than the design time needed for the GA implemented by Camp, Pezeshk and Hanson (2003). Design time for the modified version of GA implemented by the latter researchers was about 9.75 times the design time needed for the GA introduced in this research, while the frame variables used in this research are about 6.67 times the variables used for the frame designed by Camp, Pezeshk and Hanson (2003).

UNIT CONVERSIONS
1 in. = 25.4 mm, 1 kip = 4,450 N, 1 k in. = 113 N mm, 1 ksi = 6.9 MPa

REFERENCES
THE IMPACT OF FINANCIAL LEVERAGE ON AGENCY COST OF FREE CASH FLOWS IN LISTED MANUFACTURING FIRMS OF TEHRAN STOCK EXCHANGE

Amirhossein Nozari
MBA in Finance, International Campus, University of Guilan, Iran

ABSTRACT
In current research is examined The Impact of Financial Leverage on Agency Cost of Free Cash Flows in Listed Manufacturing Firms of Tehran Stock Exchange (Iran). Data of 80 companies, during 2007-2012 is used for doing research. For testing hypotheses, panel data has been used. Indices of financial leverage in this research are the ratio of debt to shareholder’s equity and ration of long-term debt. The result of research denotes negative and significant effect of ratio of debt to shareholder’s equity and ratio of long-term debts on agency cost of free cash flows. Also this result is consistent with the free cash flow theory.

Keywords: Agency Cost, Free Cash Flows, Panel Data, Financial Leverage

1. Introduction
Theory of Jensen free cash flow (1986) explains that companies with high free cash flow are always faced with differences related to the profit between shareholders and managers. Shareholders want managers to invest cash money in projects that maximizes their share value but managers tend to invest their cash money for their personal goals. (Jensen and Meckling 1976) denote in their paper that agency cost in companies with additional free cash flow is a lot. According to the theory of free cash flow, sometimes companies achieve more free cash money than what is needed for investment on projects with net present value (NPV) (khan et al., 2012). However managers have the authority of using free cash flow and it potentially causes creation of the agency problem. Managers can use free cash flow in the direction of their personal benefits or investment for increasing resources under their control (Jensen, 1986). This investment by managers causes creation of the overinvestment problem. Overinvestment problem is the situation in which managers participate in many investment projects, even when these projects don’t have benefits for shareholders. (Jensen and Meckling,1976). The differences created by free cash flow can be controlled by using debt in capital structure. By using debt managers are required to periodical refund from capital and its profit. These periodical payments, reduces free cash flow in managers hand and so reduces agency problem between owner and manager. Also using debt increases supervision on managers activates. Shareholders as creditors have necessary motivation for supervising companies performance(Jensen and meckling,1976). Therefore in this research we are going to find the answer of this question that what is the effect of financial leverage on agency cost of free cash flows.

2. Theoretical Principles of Research
2.1. Agency Costs
In the view of Jensen and Meckling (1976) agency relationship is a contract in which the principle (shareholders) hire an agent (manager) to act on his behalf. The agent has a responsibility to fulfill certain obligations for the shareholder, which includes maximization of the wealth of shareholders. However according to Jensen and Meckling these agents sometimes overindulge in personal pursuit at the expense of maximizing shareholders wealth. Managers are responsible for the daily operations of the firm because they are the agents of the shareholders they have inside information which they can use for private benefits. Thus a conflict exists between two parties because their interests are not completely aligned. According to Jensen and meckling (1976) the agency problem gives rise to the
agency cost which is a sum of the monitoring cost, bonding cost and residual loss. (Siddiqui et al, 2013)

2.2. Financial Leverage
Financial Leverage shows amount of used debt in structure of company’s capital. Using debt affects agency cost through some ways. Firstly using debt of free cash flow decreases managers’ authority (Jensen, 1986). It reduces available free cash flow for investment as payment of profit promised to the shareholders. Also this reduction at free cash flow limits extravagant investment (Harvey et al, 2004). Secondly due to this reality that managers may not follow highest benefits for creditors, there is conflict of benefits between managers and creditors and it leads to the motivation in creditors for supervising managers (Agrawal and Knoeber, 1996). Thirdly due to the danger of bankruptcy managers lose benefits they got from companies (Grossman and Hart, 1992).

3. Research Background
Zhang & Li (2008) argued that increase in leverage may reduce agency cost. The result of the study shows that increase in the leverage may reduce the agency cost. In this study they also reported that if the leverage is increased from the optimal level that results in the opposite effect on the agency cost of free cash flow. They argued that increase in the debt sometime result in increase in the bankruptcy cost. They pointed out that the increases in the debt level reduce the agency cost but increase the bankruptcy cost. The results of their study are consistent with the agency theory of free cash flow that the increase in debt helps in reducing the cash flow.

Zhang (2009) investigated the role of capital structure and managerial incentive compensation in controlling the free cash flow agency problem. The result of the study suggests that the debt and executive can be act as a substitute in reducing the free cash flow problem. He also pointed out the free cash flow problem is more in the firms with low growth prospective and mature. The usage of debt is benefit as a monitoring device and there is a negative relationship between the leverage and free cash flow. The study suggests that there is a more pronounced effect in the firms that have more severe agency problem.

Byrd (2010) argued that there is a conflict between the interest of manger and shareholders about the spending of the free cash flow. The results of the study show that there is inverse relationship between leverage and agency cost. He reported that the free cash flow theory has stresses the importance of the firm capital structure and dividend policies for controlling the free cash flow problem. The results of his stated that unlevered firms with free cash flow bear high agency cost than the leveraged firm.

Khan et al (2012) considered the impact of financial leverage on agency cost of free cash flows of manufacturing companies of Pakistan. They have considered 54 companies at Pakistan stock exchange during 2006-2010. They used Panel data for testing hypothesis. The Results revealed that the firm leverage play an important role in reducing the agency cost of free cash flow by reducing the free cash flow that is under the control of the manager.

4. Research Hypotheses
For getting proper and reasonable response to the main question of research, the impact of financial leverage indices that includes ratio of debt to shareholders equity and ration of long-term debt on agency cost of free cash flows in the form of following hypothesis has been considered.

4.1. Main hypothesis: Financial leverage significant impact on agency cost of free cash flows.

4.2. Sub-hypothesis
First sub hypothesis: Ratio of debt to shareholders’ equity significant impact on agency cost of free cash flows.
Second sub hypothesis: Ratio of long term debt significant impact on agency cost of free cash flows.

5. Research Methodology
For considering the impact of independent variable on dependent variable of the research, the multi variable regression model in the method of panel data, will be used. Hypotheses will be tested through result of econometric and regression model. In this research, for testing significance of regression equation from Fisher statistic (F) in the level of 95 percent of certainty and for testing significance of each coefficients t student test at the level of 95 percent certainty is used.

5.1. Statistical Society
Statistical society of the research includes all manufacturing firms accepted in Tehran stock exchange. For determining, considering sample volume, companies were chosen have been selected from statistical society that have the following conditions:

1. Firms have to be accepted in Tehran stock exchange before 2007.
2. In order to be comparable of the end of financial year company information should be end of March.
3. The firms that have long term debt in their capital structure in the year of study.
4. Not being damaged in the period of considering the research.
5. Required financial information should be available for data extraction.

By regarding above limitations, 80 companies were chosen during 2007-2012.

5.2. Data Collection
Required quantitative data for doing research has been obtained regarding considered variables from various resources including financial statements and reports of activity of board of directors distributed by stock organization, company of Tehran stock technology management company by the internet address of (www.fipiran.com) and management of research and Islamic studies development of Tehran stock exchange having the address(www.rdis.ir). At the step of primary data collection and processing Excel software was used. After doing calculations and primary processing, output information is used for implementing model and testing hypotheses; by using Eviews7 software.

Variables of research and the way of measuring them Regarding experience of others studies and in the framework of research hypothesis In this part 3 groups of fundamental variables consist of dependent variable, independent and control variable that has been used for modeling and testing hypothesis are introduced.

5.3. Dependent variable
Agency cost:

In this research agency cost is used as dependent variable. Free cash flow is used as a proxy of agency cost of free cash flow. Several researchers use different definitions of free cash flow. Wu (2004) defined free cash flows as operating income before depreciation minus interest expense minus taxes minus preferred dividends divided by book value of assets. Chu (2011) calculated the free cash flows...
by subtracting total tax on income, gross interest expense and expense on investment activity from operating income before depreciation. Khan et al (2012) defined free cash flow as operational income before depreciation divided by total assets. In this research following Utami et al (2011) free cash flow is defined as:

\[
\text{free cash flow} = \frac{\text{net profit} - \text{changes in fixed assets} - \text{changes in net working capital}}{\text{total assets}}
\]

In which net working capital is defined as:
Net working capital= current assets- current liabilities
For calculating changes of net working capital firstly net working capital in every year and then its difference with previous net working capital is calculated.

**Independent variable**
In this research financial leverage is independent variable that for calculating financial leverages the following criteria is used:

1. Ratio of debt to shareholders equity that is as below:
   \[(D/E)_t, i = \text{at the year I total debt of the company t/ in year I shareholders’ equity t}\]

2. Ratio of long-term debt. Following Khan et al (2012) is defined as:

\[
\text{ratio of long – term debt} = \frac{\text{long – term debt}}{\text{short – term debt + long – term debt}}
\]

**5.4. Control Variable**
Control variable of the research includes:

**Firm size:**
Firm size is identified sometimes as natural logarithm of sale and sometimes as natural logarithm of total assets (of course in some cases dependent on the nature of the research logarithm of market value is used) (HasasYeganeh et al, 2008). In this research it is defined as natural log of total assets of the firms.

**Profitability:** profitability in some researches has been defined as operational profit divided by total assets or net profit on total assets. In this research it is defined as net profit divided by total shareholders’ equity.

**Investment and growth opportunity:** In this research sale growth is used that is defined as below:

\[
\text{sale growth} = \frac{\text{Total sales of current period} - \text{total sales of previous period}}{\text{previous year sale}}
\]

For considering the impact of financial leverage on agency cost of free cash flows, the following relation is used as basic model:

\[
\text{ACF}_{i,t} = \alpha + B_1 (D/E)_{i,t} + B_2 (LTDR_{i,t}) + B_3 (PBFT_{i,t}) + B_4 (SIZE_{i,t}) + B_5 (GROWTH_{i,t}) + \varepsilon_{i,t}
\]

In which:
* \(\text{ACF}_{i,t}\): Agency cost of free cash flows of I firm in t year
* \(\alpha\): Mean of the effect of all variables deleted from the model on dependent variable
* \(D/E\): Ration of debt to shareholders equity of the firm I in year t
* \(LTDR\): Ration of long-term debt of firm I at year t
* \(PBFT\): Profitability of I firm in t year
* \(SIZE\): Firm size in t year
* \(GROWTH\): Growth opportunity of I firm in t year
6. Data analysis

6.1. Stability

In order to be certain about the result of research and not being artificial of the available relations in regression and significance of variables, the stability testing and calculating unit root of research variables has been done. The mentioned test has been done by using Eviews7 software and augmented Dicky Fuller test. (The results of tests (table 1) show stability; of variables; so null hypotheses that based on having united root of variables, is rejected and variables are stable.)

\[
\begin{align*}
H_0: & \text{existence of unit root} \\
H_1: & \text{lack of unit root}
\end{align*}
\]

Table 1: Result of stability of variables

<table>
<thead>
<tr>
<th>Tests Variables</th>
<th>Augmented Dickey-Fuller</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACF Coefficient</td>
<td>187.170</td>
</tr>
<tr>
<td>ACF Sig</td>
<td>0.0000</td>
</tr>
<tr>
<td>D/E Coefficient</td>
<td>106.512</td>
</tr>
<tr>
<td>D/E Sig</td>
<td>0.0178</td>
</tr>
<tr>
<td>LTDR Coefficient</td>
<td>85.3991</td>
</tr>
<tr>
<td>LTDR Sig</td>
<td>0.0133</td>
</tr>
<tr>
<td>PBFT Coefficient</td>
<td>54.6349</td>
</tr>
<tr>
<td>PBFT Sig</td>
<td>0.0091</td>
</tr>
<tr>
<td>SIZE Coefficient</td>
<td>89.9458</td>
</tr>
<tr>
<td>SIZE Sig</td>
<td>0.0599</td>
</tr>
<tr>
<td>GROWTH Coefficient</td>
<td>155.888</td>
</tr>
<tr>
<td>GROWTH Sig</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

6.2. Chow test or Structural changes test

For testing research hypotheses first, the model of fixed time effects was estimated and then for considering significance difference, structural changes test will be used. This test is hypothesized for considering the existence of fixed effects as below:

\[
\begin{align*}
H_0: & \text{lack of fixed effects } \leftrightarrow \text{ pool model} \\
H_1: & \text{existence of fixed effect } \leftrightarrow \text{ fixed effect model}
\end{align*}
\]

The result of this test has been presented in table 2. Significance less than 0.5 percent shows rejection of H0 hypothesis; that is, model of fixed effects are chosen as best model.

Table 2: Results of Chow test

<table>
<thead>
<tr>
<th>Sectional -cutting</th>
<th>Statistic</th>
<th>Freedom degree</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>F statistic</td>
<td>3.164406</td>
<td>(79,384)</td>
<td>0.0000</td>
</tr>
<tr>
<td>Chi-square</td>
<td>240.666063</td>
<td>79</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

6.3. Hausman test

As it is regarded, the result of Chow test denotes choosing model of fixed effects. Now we should test model of fixed effects in contrast to the model of random effect. For this action Hausman test is used. Hausman test is set for considering the existence of random effects as below:

H0: There isn’t correlation between personal effect and descriptive variables \( \leftrightarrow \text{ random effect model} \)
H1: There is correlation between personal effects and descriptive variables→ fixed effect model

Table 3: Results of Hausman test

<table>
<thead>
<tr>
<th>Test effect</th>
<th>Statistic</th>
<th>Freedom degree</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Random</td>
<td>81.220845</td>
<td>11</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

As it is considered, regarding significance H0 is rejected and model of fixed effects is chosen as prioritized model.

6.4. Variance anisotropy
In sequence statistic, random variables that have different variances are called anisotropy variance. In contrast, a sequence of random variables is called similar variance; if they have fixed variance. In this research, the test of Breusch-Pagan-Godfrey has been used for finding anisotropy of variance.

H0 = lack of variance anisotropy
H1 = existence of variance anisotropy

As it is obvious from the results of table 4; significance level, lower than 0.05 shows rejection of H0. Therefore, variance anisotropy is confirmed. Under these conditions, the ordinary least square (OLS) method is not counted as the best linear estimator without bias (BLUE) and instead generalized least square (GLS) is used for estimating model. GLS is the same OLS that data are changed in a way to supply suppositions that are needed for the GLS. GLS method is sometimes introduced as weighted least square; because in this method, weight sum of reminders are reduced whereas in OLS method their non-weighted sum are reduced.

Table 4: Identifying inconsistency of variance

<table>
<thead>
<tr>
<th></th>
<th>Statistic</th>
<th>Probability of statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breusch-Pagan-Godfrey test</td>
<td>F-statistic 3.145120</td>
<td>Prob. F(11,468) 0.0004</td>
</tr>
<tr>
<td></td>
<td>Obs*R-squared 33.04090</td>
<td>Prob. Chi-Square(11) 0.0005</td>
</tr>
<tr>
<td></td>
<td>Scaled explained SS 105.5719</td>
<td>Prob. Chi-Square(11) 0.0000</td>
</tr>
</tbody>
</table>

6.5. Autocorrelation
As it is observed in the estimated results related to the hypotheses; statistics of Durbin–Watson shows the number 2.03 that shows lack of autocorrelation.

4.6. Result of Testing Hypotheses
The result of testing hypotheses has been presented by using EGLS method in table 5. The result of testing model and coefficient of independent variables obtained by using mentioned method shows this subject that variables used in the model totally explain 68 percent of dependent variables. As it is regarded in mentioned table, F statistic shows meaningfulness of the regression equation.

Table 5: Result of estimation obtained from hypothesis testing of the method EGLS

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Standard deviation</th>
<th>t-statistic</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.477546</td>
<td>0.111552</td>
<td>4.280926</td>
<td>0.0000</td>
</tr>
<tr>
<td>D/E</td>
<td>-0.008857</td>
<td>0.003160</td>
<td>-2.803055</td>
<td>0.0053</td>
</tr>
<tr>
<td>GROWTH</td>
<td>-0.031455</td>
<td>0.008182</td>
<td>-3.844449</td>
<td>0.0001</td>
</tr>
</tbody>
</table>
Regarding table 5, coefficient and t statistic related to the variable of debt ratio to shareholders equity denotes negative and significant effect of this variable on agency cost of free cash flows. Then the first sub hypothesis is confirmed. The result of testing this hypothesis denotes that with the increase of debt ratio to shareholders equity, agency cost decreases and leads to alignment of activities of company’s executive managers and shareholders. The result of research of Khan et al (2012) shows that there is significant and negative relationship between ration of debt to shareholders equity and free cash flow. The result of this research corresponds with the result of the research of Khan et al (2012).

Coefficient and t statistic related to variable of ration of long-term debt denotes significant and negative effect of this variable on agency cost of free cash flows. Thus second sub hypothesis of the research is confirmed. The result of this test denotes that with the increase of long-term debt, agency cost of free cash flows will decrease and leads to alignment of most activities of company’s executive managers and shareholders. Therefore the result of this research corresponds with the result of the research of Khan et al (2012).

Results for the debt policy of the firm is also accordance to free cash flow theory that the optimal level of leverage in firm capital structure can reduce the free cash flow that is under the control of the manager. By using more debt in the capital structure manager give right to the debt holder that they can bring the firm in to the court if they do not make the interest and principal payments to them. More usage of debt increase the bankruptcy risk of the firm and the risk of losing jobs for the manager so they avoid investing free cash flow in the negative NPV projects. Thus debt is also a controlling mechanism of agency cost of free cash flow like the dividend.

The result of research denotes positive and significant effect of the firm size on the agency cost of free cash flows. That is by enlargement of company the agency cost increases that is according to the findings of Khan et al (2012).

Also, there is negative and significant effect of growth opportunities on agency cost of free cash flows. It can be concluded that companies with high development opportunity are managed better than companies with lower growth opportunity.

Finally, the results denotes positive and significant effect of profitability on agency cost of free cash flows, the reason of this action can be the point that a profitable company preserves more cash money and it is possible the manager of that company use it incorrectly and for useless activities. The result of this research corresponds to the result of research of Utami et al (2011) and Khan et al (2012).

7. Discussion and Conclusion
Theory of free cash flow of Jensen states that agency cost of companies in which their free cash flow is high can be a lot and agency costs causes decreasing values. On reason of decreasing agency costs is using debt in this research considering the effect of financial leverage on agency cost is done. The result denotes significant and negative effect of ration of debt to stockholders equity and ration of long-term debt on agency cost of free cash flows.

There are some recommendations for the government, investors and the mangers to control the agency cost associated with the free cash flow. Firstly certain convents between the principal and the agents are also needed to limit the management decisions on investments undertaking to restrict the
investment of firm free cash in non-value adding projects. Complex contractual arrangements between the managers and owner of the firm. That protects the right of the owner on the free cash flow of the firm. Agency cost may be also minimized by forming the rules prohibiting the conduct that is reliably identified contrary to the interest of the principal.

References

ARCHITECTURE OF CHURCHES OF ARMENIANS IN TEHRAN

Punik Simoni
PHD Student, Department of Architecture, Faculty of Fine Arts, University of Tehran, Tehran, Iran

Isa Hojat
Professor, Department of Architecture, Faculty of Fine Arts, University of Tehran, Tehran, Iran

ABSTRACT
Armenian churches had been built in Tehran since 18th and 19th centuries, but the most important part is from 20th century. These churches can be studied in three groups: the earliest churches group, the Church of St. Astvatsatsin (Holy Mother of God) built by Nikolai Markov and finally the church of Saint Sargis (Armenian Prelacy of Tehran) along with the churches built afterwards. By studying the architecture of exact buildings in terms of plan and volume separately and in the political and cultural context of that period, especially when in compare with historical Armenian churches, contemporary Armenian churches, Armenian churches built in other areas of Iran and modern and contemporary churches of the world; comprehensive results are obtained about the architecture of them. So, in this study, the earliest churches along with a number of churches in other cities in Iran belong to a transition period between the architecture of Armenian churches in Isfahan and Tehran. The churches of Isfahan, in their turn, follow the Traditional Armenian architecture, in plan and interior spaces, and influenced by the architecture of Safavid period of Iran, in the total volume and façades. Second group can be seen as a type of classicism, which means the direct integration of Armenian traditional architecture. And the third group buildings, contemporary ones with deep roots in traditional architecture, have the obvious impact of modern and contemporary architecture of the world. These churches represent the same sense and concepts embodied in traditional Armenian architecture with an abstract language and remarkable artistic innovation. In addition, the direct use of concrete traditional churches or some types from Armenian architecture history or a new reading of them, provide a tight connection between these and their predecessors. According to the characteristics of all three groups and paying attention to this fact that, Armenian churches of Tehran have always had the common Armenian architectural design in their plan and interior space and also in their external volume, we should mention that this is a kind of return to roots, after the separation point in its historical aspect occurred in Isfahan. This return was identically at first and in addition with use of technology and innovation afterwards. So we should conclude that the architecture of Armenian churches established in Tehran have a single identity and must be called Armenian contemporary Church Tehran, by the way of cultural belonging in architecture.

Keywords: Armenian church, Armenian architecture, Iranian Armenians, architecture of church, the churches of Tehran

INTRODUCTION
Different areas of Tehran City embrace several examples of Armenian churches due to the long-term presence of Armenians in this City. Some of these churches which have special characteristics or are urban and cultural symbols, have a greater chance to be known by the specialist or citizens. But most of them and especially, their architectural identity are unfamiliar to the community of experts and researchers in the field of architecture, Iranian architecture, contemporary architecture, religious architecture and so.

It should be noted that the architecture of Armenian churches in Tehran is important as the architecture of Armenian churches and also, in other fields of contemporary times, as a significant part of contemporary architecture in Tehran. This architecture has also had an important impact on the shaping of city landscape.
Armenian churches, built in Tehran over time, have impressive architecture as a single building and also, along each other, portray an evolutionary path. Studying the changes in plan, interior space, external volume and architectural features of this process in the cultural-historical circumstances of the formation of buildings on one hand and looking at the architecture of the churches in Armenia, architecture of modern and contemporary churches in the world, the architecture of Armenian churches in other regions of Iran, at the same or earlier time, on the other hand, will provide valuable information.

The number of the studies on the architecture of Armenian churches in Tehran City are less than the studies in other regions and cities of Iran, such as Azerbaijan and Isfahan. Also, existing studies, which have considerable value, are mainly general, descriptive and have historical information. Deeper and more accurate studies have been done only on individual buildings. There are no comprehensive and analytical studies, including comparative studies of architecture, in the historical-cultural circumstances and by the use of modeling and comparison.

METHODOLOGY
This study is mainly qualitative research and provides the dominant types based on the quantity of the samples. Data was collected by the use of archive documents and field study and investigated by modelling, comparing and analyzing logically. According to the holistic nature of research, the resources used for studying each of the buildings and also, the resources used for accurate and extensive study will be provided. Given the qualitative and multi-categories analysis, this study is also deep-thinking in addition to be comprehensive. Despite of its extensive review levels, it is generally considered fundamental.

What this study seeks is to answer a main question:

• What are the nature and characteristics of the architecture of Armenian churches in Tehran?

That can be reviewed by a few questions:

• What are the common and differences between the Armenian churches in Tehran and the architecture of the church in the world and Armenia?
• Can the specified process be considered for the changes of architectural characteristics of Armenian churches in Tehran?
• Do the Armenian churches in Tehran have the same and identified identity in terms of the architecture?

There are many churches in Iran that religiously follow the “Armenian apostolic holy church”. So we select the buildings based on this criterion and call them “churches of Armenians”, and study them to find out what identity do they have according to architecture and cultural belonging. Therefore the architecture of other churches as Catholic or Protestant of Armenians in Iran all other nations’ churches are out of the delimitation of this research.

DIFFUSINESS OF CHURCHES IN TIME AND PLACE
The considerations of Armenians’ presence in Tehran is different from Azerbaijan where they are local and from Isfahan where they had been moved by forced displacement by Safavid Shah Abbas. Except the primary forced movement, increase of Armenian population in Tehran had occurred at the end of 19th and early of 20th century and must be considered as the part of the general flow which tended to capital. Of course, the migration of Armenians of Iran to Armenia, in the years following World War II, had significant impact on the displacement of the population from the different towns and villages to Tehran City.1

1 For further reading, see [1], [2], [3], [4]
The first group of Armenians were moved to Tehran at the time of Karim Khan Zand (1762-1779). This group included 10 families of the masons from New Julfa, Isfahan and were resided in the neighborhood of Sarasiab Dolab.

.... At the time of Agha Mohammad Khan Qajar, after Tehran was chosen as capital, a group of Armenians along with the captives of war in the Caucasus in 1795 were moved to Tehran and resided in the neighborhood of Qazvin Gate. The first Armenian chapel (Matur) was built in this neighborhood and in the alley next to Haj Kazem bagh (Moayer bazaar) in 1797. In 1884, St. George church was built at the place of this matur.” [5]

In following years, the Armenians settled in Tehran and the neighborhood of Shah Abdul Azim, Vanak village, Jonhori St., Karim Khan St., neighborhoods of Vahidieh, Majidieh and Heshmatieh and churches of St. Bardughimeos, St. Minas, The Holy Mother of God, St. Sargis, St. Targmanchats, St. Gregory the Illuminator and St. Vartan were built in mentioned neighborhoods, respectively. In total, there are 11 churches in Tehran, all of them are active [6].

Also, three matur[2]s were established in the old Armenian cemetery of Dolab neighborhood, the current Armenian cemetery (Khavaran Road) and Ararat sport complex (Vanak). So, the churches in Tehran include the main group of urban churches and some matur[3]s (figure 1). Unlike the historical matur[2]s of Azerbaijan region, which were established in certain places or to remember any saint, the matur[2]s in Tehran were established in the area of cemeteries and in order to perform funeral and remember the dead. A monastery, which originally means having monastic life within the set, don’t exist in Tehran. But, it should be noted that Armenians in Tehran needed some space for national and social organizations. So although, the existing churches in Tehran are not a monastic set but they are the sets with the core of worship building and other buildings with administrative, cultural (school, museum, association) and service functions (exceptional children care center, the elderly care center3).

There are no rural churches in Tehran, although the Armenians, who moved to Tehran in earlier years, settled in the villages around the city and St. Minas church of Vanak was established at that time.

ARCHITECTURE OF CHURCHES IN TEHRAN

Urban churches of Tehran must be categorized into groups in terms of time and architectural image. The earliest churches, that some of them such as St. Gevorg church (Figure 2), were replaced over time by new buildings, shape the first group. These churches were built at the beginning of the settlement of Armenians in Tehran and at the same time of Armenian active life and architecture in Isfahan (Figure 3). Churches of this group resemble the former Isfahan churches and should be considered along Isfahan architecture [8].

---

2 Small churches built in the place of martyrdoms and in the memory of saints are generally small places of worship and prayer [7].
3 Refer to [5]
St. Bardughimeos church in Molavi cross-roads, built in 1808 is one of those (Figure 5). Plan of pillared hall, a small dome or bell tower, brick material and simplicity in generalities and details are the characteristics of this group of buildings. There are also some other churches in different cities of Iran which belong to this very type, for example the Armenian church Shiraz, built with the same architecture of the churches in Isfahan churches, or the churches of Ghazvin (Figure 5) and Araq, built in late 19th and the early of 20th centuries. These churches have some characteristics of Isfahan ones, just like the Tehran earliest churches. Brick material and the associated manufacturing methods (such as Safavid dome) and some of the most significant and vary according to the time and place.

The next church which is important in general trend is the church of the Holy Mother of God (Figures 6 and 7) built in 1938 by Nikolai Markov, a famous architect from Georgia [9]. This building, unlike its Tehran predecessors, was designed according to historical architecture of Armenian churches in terms of plan and volume, although, it resembles the churches of the northern areas of Armenia⁴ (Figure 8), which are on the border of Georgia, and it is more similar to Georgian church than the Armenian one in terms of the proportion of dome. The more interesting and ironic issue is that Tehran

⁴ For further information, especially about ambiguity in the design of this church designed by Markov, although it had been certainly built by Markov, see [9]
Russian Orthodox Church built in 1944 by this architect\(^5\), was designed with the same plan, while the conventional architecture of Russian Church is quite different from the Armenian. In this building, the plan, interior space and also, the total volume and the details of façade were directly derived from traditional Armenian architecture (with the aforementioned considerations). St. Karapet church built in Abadan City in 1940\(^6\) (Figure 9), is similar to Markov’s church, in the rehabilitation and adhering to the traditional architectural features.

Other churches in Tehran which were built after these periods and by educated and sometimes famous Armenian architects form the final image of the Tehran Armenian churches and to be familiar with their exact features, the following outstanding samples were chosen among them.

**ST. SARGIS CHURCH**

St. Sargis church is also the center of Armenian Prelacy in Tehran. This building, located in intersection of Karim Khan and Nejat Ollahi (Vila) streets, is designed by Armenian architect Ojen Aftandillians, [5].


![Figure 10: St Sargis church plan](image1.png)

Figure 10: St Sargis church plan [2]. Figure 11: St Gayane church plan, Ejmiatsin, 7\(^{th}\) century, domed basilica [9]. Figure 12: Dvin Cathedral plan, 7\(^{th}\) century, cruciform domed basilica (1940)

The plan of this church is an elongated rectangle with four center pillars and with a little protrusions in the wings, it is similar to the cruciform type in Armenian architecture (figure 10). Rectangle with four central pillar (domed Basilica) can be found in St. Gayane church in Ejmiatsin City (Figure 11) and cruciform plan or three-apse basilica can be found in the Cathedral of Dvin city (Figure 12). Only the semicircle protrusion of wings has become orthogonal. The former is seen in the Isfahan churches, and the latter in St. Stepanos Monastery in Azerbaijan. The major differences between this church and the traditional types are reducing the wall thickness and adding to the interior spaces, increasing the number and size of openings and some other changes in the proportions.

![Figure 13: St Sargis church volume](image2.png)

Figure 13: St Sargis church volume. Figure 14: The original design of the church. Figure 15: St Sargis church, Yerevan, Armenia, external renovated by contemporary architect Rafael Israyelian (designed in 1972)

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\(^5\) [9]
\(^6\) [8]
In the external volume, it also follows the Armenian architectural traditions (Figure 13), rectangular volume combination with triangular centaury of western façade and protrusion of side wings, the polyhedral protrusion of the apse, the dominant dome, the bell tower above the entrance, the triangular recesses in façades (khorsh⁷) and many other features have been derived from Armenian architecture culture.

In contrast, simplifying the volumes, narrow vertical openings, extensive use of metal and glass (even in the dome), separating the level of main entrance from the secondary level of bell tower and generally, the abstract translation of the volume of Armenian church are the impact of modern architecture on St. Sargis church design. It is interesting to know that the original design, had an entire transparent (glass and metal) west façade. The façade was covered later and some windows were placed there. Also, the dome, except the white lines (structure), was completely made with glass in the original design. Now, in the upper part (pyramid coating), it is covered by another material which is similar to glass from exterior view and in a way that the light enters the church just through the drum, like in a traditional Armenian church. Both of these changes were done with functional reasons, but also in order to return to the traditions interior of Armenian Church (Figure 14). In modern times, some churches in Armenia also are being built with Armenian traditional characteristics and innovation in methods of implementation, use of modern materials and technologies, simplifying the decorations and other so called “conservative” changes (Figure 15).

ST. GREGORY THE ILLUMINATOR CHURCH

This church was placed in Majidieh neighborhood, its construction began in 1975 and completed in 1983. The church was designed by Jirair Simonian and it known to be a derivation of the historic St. Hripsime church (Figure 16) in Armenia (7th century) [2].

In terms of plan, this church (Figure 17) is more similar to another group of Armenian churches, called single- apse cruciform plan, and mainly seen in small churches (Figure 18). In terms of exterior volume, especially the proportions of dome, the church (Figure 19) indeed resembles St. Hripsime (Figure 20). In interior space also, the church is similar to St Hripsimeo. The significant corners of St. Hripsime church have been replaced by narrow vertical skylights in this church, which creates the same, only brighter spatial sense (Figure 21, 22). Simplifying the transition from the plan square to the drum circle in interior and the drum volume in the exterior, designing the bell tower at the entrance by the use of cross motive and emphasizing on the entrance by using lines and surfaces, in contrast of the volume-oriented nature of the Armenian architecture, are innovations influenced by modern architecture. But we should also mention, that the building, just like St. Sargis church, is largely faithful to the traditional Armenian church architecture in both inside (completely) and outside (significantly), while the modern technology (expose metal beams) and abstraction, are also entered.

⁷ Khorsh: these depression have been created to reduce the volume and weight of materials, particularly to deal with the earthquake
THE HOLY CROSS MATUR (ARARAT SPORT-CULTURAL COMPLEX)

This matur was built in the southern part of Ararat sport-cultural complex, because of the remnants of the Armenian cemetery in Vanak and in order to remember them.

“Little chapel of the Holy Cross was built in 1987 in the area of Ararat club. This church was designed by Rostom Voskanian with a cruciform plan” [2].

The Matur (Figure 23) can be classified as a small three-apse cruciform church which is a type of cruciform centre domed church (Figure 24), one of the main types in the architectural development of maturs or small churches in Armenian architecture. In exterior volume (Figures 25, 26) and interior space (Figure 27, 28), the total central volume of Armenian churches and also division plan are quite tangible. The use of abstraction is as high that it seems the architect has tried to make totally abstract sculpture to provide a new reading based on the combination of lines and surfaces and by the simplification of the some basic features of this type. The Armenian architecture basic features used in the classical sample of this type and abstracted here are the conical dome, protrusions of the wings of cross, inner and outer corner details, volume proportions of the whole or a part of it and even decoration. Using the Cross (Figure 29) which is usually a decorative motif in similar buildings as a part of the main volume, is completely perceived via modern thinking and abstraction. Looking at...
Holy Cross chapel (Figure 30) designed by Frank Lloyd Wright, a famous architect of Modern style, can be reminiscent of a similar process in world architecture. The use of exposed concrete material, the most similar one to stone (the main material of the Armenian church architecture), the small and narrow windows, perceiving the church as a sculptural volumetric nature, faithful to the Armenian stone-decoration traditions and finally, the volume proportions are some subtle nuances that the designer has used to provide a quite familiar artwork to an Armenian church user in addition to creativity and innovation.

RESULTS

According to the above, some results can be extracted as characteristics of Armenian churches in Tehran. The conclusion of comparative modeling (plan and external volume) (Figure 31) and the table of results, including dates of construction and architectural characteristics of studied churches (Figure 32) are provided. Studied churches selected as the examples of the architecture of Armenian churches in Tehran are the outstanding ones in the 3rd group of the Tehran Armenian churches mentioned above.

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8 The table of results was created by author based on [2] and [8] and the models were built by author based on the status quo of the churches and the information of the same sources has been used directly or indirectly.
DISCUSSION

The first group of Armenian churches in Tehran built in 18th and 19th centuries is considered along the architecture of Armenian churches in Isfahan. So this group forms a transition period between Isfahan and Tehran Armenian church architecture, along with some other churches in different cities of Iran. The material, climate and construction methods are some main differences between the churches in New Julfa and Armenia in its turn. Being moved to other points of Iran, Armenians had continued the architecture of Isfahan’s churches identically at the beginning. Later some changes have been done by the influence of local climate and material. These changes include the return to conical Armenian dome, use of the Armenian façade tradition in volume (Figure33) and the tendency to use non-rectangular forms, especially the Cross form, in plan (Figure34).

The churches built after this transition period, mainly by educated and famous architects, were designed paying attention to Armenia classic church architecture, especially in outside. This was emphasizing the types lacking attention during 17th and 18th centuries. The church designed by Markov is the first significant step towards traditional Armenian architecture (limited to architect’s awareness) and the church built in Abadan is also of the same type. This kind of identical repetition without any targeted change in the composition or the elements can be known as classicism. Aftandillians in St.Sargis church and Simonian in the St. Grigory the Illuminator church had used two non-rectangular almost cruciform plans, called three-apse center domed and three apse domed basilica. Also, noticeable efforts can be seen in return to the classic traditions of roof and dome shapes in Tehran churches which had been faded out in the changes from the vernacular architecture of Armenian churches in Azerbaijan to the region with different climate, materials and architectural

Figure32: Table of Tehran Armenian church types and characteristics

<table>
<thead>
<tr>
<th>Region</th>
<th>Type</th>
<th>Time</th>
<th>City church</th>
<th>Chapel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tehran</td>
<td>cruciform</td>
<td>18th to 19th c</td>
<td>St Sargis 1970</td>
<td>The Holy cross- Arrarat 1973</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>St Grigory the Illuminator 1982</td>
<td>St Stephenos 1974</td>
</tr>
</tbody>
</table>

Characteristics:
- similarity to classic Armenian Church appropriate composition, importance of roof and the dome, simplicity and abstraction, materials of brick, stone and concrete
- centered composition, a new look to Armenian classic church proportions, volumes, items and methods by the light of modern and contemporary thinking

Figure33: The exterior image development from Isfahan to Tehran Architecture, Isfahan, Shiraz, St. Tadeos- Bardughimeos Tehran, St. Gevorg Tehran, Ghazvin, Arak respectively (by author)

Figure34: The exterior image development from plan forms, Isfahan, Ghazvin, Abadan, St Astvatsatsin Tehran, St. Sargis Tehran, St. Grigory the Illuminator Tehran respectively (by author)
traditions such as Isfahan. It seems that the common flat roofs of Tehran and considering the fifth level out of sight still prevails and no excellent representation, of combined volumes, except the chapels, is seen in these churches. Achieving to volume proportions is slightly easier in chapels due to the limitation of dimensions. Still a tangible process of this field is visible in comparison with the recent examples in Azerbaijan and early examples in Isfahan (Figure 35). However the most significant difference between the recent churches of Tehran and previous examples is the importance of innovation or the strong effect of Modern architecture. Trying to name the process which has created the volume and space by the use of abstract language and obvious features of modernism such as technology and materials and avoiding decorations, still very faithful to traditional Armenian architecture in sensorial and conceptual layers, seems futile. Classicism, post-modernism, traditionalism and names like these sound useless. “Radical historicism” may seem more appropriate, but, we will call in Modern influence on Armenian architecture, as we call Seihon’s works, despite the widespread use of the concepts and elements of Iran's historical architecture.

Finally, it can be said that the churches of Azerbaijan, which are vernacular and loyal to the architectural culture of Armenian churches in history, and the churches in Julfa in Isfahan that have been along the first group and changed with combining with Safavid Iranian architecture, are the source of the architecture of churches in all other Iranian cities, including Tehran. This architecture reaches a contemporary image in Tehran after passing the transitional period and scattering in different climate and geography. In this process, the string of rosary is certainly the interior space of Armenian churches which represents the need of users’ for a place with a familiar sense. In addition to the linear connection by the axis of interior space, rebuilding the outstanding and familiar historical buildings of the Armenian architect which can be seen in abundance at all times, is the evidence of mentioned need for mental security. In external appearance, there are two aspects affecting more than others, the political and economic ones. Thos, when political conditions...
permit and it is economically possible for the community, a stronger expression of Armenian architectural concepts and themes in external appearance is clearly visible. This applies to the Armenian churches in Iran, except indigenous monuments of Azerbaijan and most of all characterizes churches of Tehran. And, when addressing the modern architecture and new methods is possible and required, these language and possibility are again used in order represent the previous cultural concepts (Figure 36, 37).

CONCLUSION
Armenian churches are being built in Tehran from the 18th and 19th centuries but most of them are a 20th century building. These buildings are to be studies in three groups, the earliest churches for the first group, St Mary church by Nikolay Markof for the second group and St Sargis church (the Armenian prelacy of Tehran) and the churches afterwards for the third group. The first period had been started with these features: brick materials, plan of pillared hall, rectangular volume, small conical dome or bell tower and the simplicity of other characteristics. This period has no similar examples and given its transient nature, the buildings had gradually changed towards the features of second group in terms of plan and volume. The features of second group are repeating the division plans of buildings and important periods of the architecture of churches in Armenia and direct derivation of total volume and other architectural features. The features of third period are the innovative repetition of classic Armenian plans and usage of Armenian Church traditional volume and dome by the techniques of simplifying and abstraction of the volumes and decorations, which is the obvious effect of modern architecture with daring steps in using modern materials and technologies. Innovations and the effect of modern and contemporary architecture in these churches is in line with greater emphasis on total structure of volume and details and the expression of the Armenian church architecture and not far from it. Also, in terms of interior space, these techniques are completely used to create spatial sense of traditional Armenian churches. Keeping pace with the architecture of modern church in Armenia is another feature of this architecture.

Therefore, despite the separated periods and differences, all churches of Tehran are along with the architecture of Armenian Church (meaning the architectural culture of the church in 17 centuries in the geographic area of Armenian culture) in terms of plan and interior space, and this is a common feature of the churches of Tehran with all other churches in Iran. In terms of exterior volume and other architectural features, the churches of Tehran express the sensory and conceptual themes of the architecture of Armenian churches at the modern and contemporary abstract language by the use of technology and artistic creativity. They must be perceived with a unit nature and identity and be called Architecture Church architecture in Tehran, addressing the cultural belonging of these buildings.
REFERENCES
Hakhnazaryan, Armen, (2012), Three Monasteries Of Artaz, yerevan RAA
EXPLORING ON THE MUSICAL QUALITIES AND SYMBOLS IN LANDSCAPE ARCHITECTURE

Fereshteh Kharrazi Qadim

1 Young Researchers and Elite club, Tabriz Branch, Islamic Azad University, Tabriz, Iran
*Corresponding Author: Fereshteh Kharrazi Qadim, F.kharrazi.arch@gmail.com

ABSTRACT
Music causes a sensation by some of the principles and arranged sounds to the hearer. These feelings are qualities that are presented in this essay in landscape architecture and the principles that provide them which are analyzed in organizing mode.

The method of research in this essay is descriptive-analysis and these qualities are analyzed in different tables and the results which are achieved by analysis is that the qualities of music, the symbols in landscape architecture, organizing them and providing beautiful places which are suitable in the landscape atmosphere are used and shown. Some of Qualities and symbols of landscape architecture and their characteristics, atmosphere of them and also principles of organizing landscape have been studied. As beautiful and euphony composition of music can lead to tranquility in the listener, uphold the principles of aesthetic for the building can also create an eye-catching and beautiful structures. In this study has been tried to be paid to common principles that cause the beauty of music and architecture of buildings.

Keywords Musical Symbols, Musical Qualities, Principles of Organizing, Landscape, Architecture

INTRODUCTION
Music is a kind of art that is created with handling and mixing pleasant sounds and the beauty and attractiveness are calculated by considering the result of it on soul and mind of the audience [14]. This “Schopenhauer” phrase that “every kind of arts wants to reach the music level” includes the fact that the knowledge of it guides all of us to know the real meaning of all kinds of arts. The principles that are arisen are the presence of abruption and abstraction in the art of music [5].

Most of the general people believe that the result of music is pleasant, lovely when they follow rules. The rules that have calculated and measured physic, the technique of them based on of ear and mind of human beings and on the musical instruments in thousands of years [5].

Beginning with a brief historical summary of the relationships among sound, music, and the forms of buildings, Sheridan and Karen[26], argue for the inclusion of broader-based design criteria in the academic design studio and professional practice. This expanded basis for design and criticism includes an
understanding and appreciation of the aural character of buildings. They believe, to the extent that sound can be integrated into the design and evaluation process, the sonic aspect of buildings can be intentionally articulated to achieve a richer, more satisfying built environment: one that responds to the ear as well as the eye. Also in another study, Hanoch[8] focused on certain musical and architectural words created during the second the very categorizations of temporal versus spatial arts. In particular, they discusse the reversion urban design, and the transformation of the linear process of the musical score into a modular one, leading the performer to a process similar to that of performing or comprehending an architectural work. In their study, works of composers such as Ligeti, Stockhausen and Cage, whom resuscitate the frozen time into fluid architecture by use of Plan and Graphic score are discussed as well as similar scoring techniques in other arts such as poetry, dance and urban design. Like the Greek people used to imagine music geometrical that are changed to sound, the architects of renaissance also believed that architecture is mathematic that is revised to spatial units [3].

Landscape is the tangible form that it reflects the visual, usages and meanings of things in the atmosphere. This word refers to the meaningful reflection of mixed elements and factors that exist outside the mental effects of the observer [9].

Since the main feeling of us from our environment is visual feeling, the designer should be expert in using the visional movements. Also he should be able to strengthen the visual feelings. Otherwise, the resulted feeling will be weak. By using the sensational motives, the designer can create a strong feeling of place [23]. These sensational motives of visual feelings are provided by factors that organize the atmosphere. In this essay we will analyze the principles of organizing in landscape architecture due to the beauty of the music qualities.

MUSICAL QUALITIES
All of us know that before anything, music is produced with sound or voice. In other words without sound there won’t be any music [10]. The placement of sounds and silence next to each other will cause a music composition in the end [21,25].

Presence of arrangement in music, presence of relations and mathematical relations have the undeniable role in forming and notes of music. Another sign of presence of arrangement in music is the regular repeating of time. In Iranian music we face with the context of time with the forms of metric and rhythmic forms and in both forms of creating music, producing regular compositions are virtual when the presences of sound or not presence of it are followed by abstract forms [15].

One form of art is the shape and the appearance of the play. The purpose of form is analyzing the features of the appearance of the musical compositions. For example, a Suite in its creation has a special form that each of these forms has their own forms and the special form of each composition will produce Suite. In fact, the form of music is modeling the construction of the compositions and including the vocal melodies, forms of amount and rhythm, harmony and other factors of constructing the algorithm of a work and composition. The factors of repeating and symmetrizing, variation or uniting (making proportion even between the contradictory elements) cold are known as the elements of form construction of music. Since the subject in music has a fundamental role, the numbers of chansons and forms in music are limited to simple and complicated [14].

LANDSCAPE ARCHITECTURE, DEFINITIONS AND EXPRESSIONS
The meaning of landscape in English is landscape and in French is Paysage. These two words that are come from the words land and pay mean nation and scape and sage refer to a glance to the future and mean a nation which is in far away and in Persian mean scenery, but in common language the word landscape is an expression [6], because the meaning of the word landscape has deep connotations. Observing is accompanied by thinking and the other meaning of landscape is looking the things available. As a result, landscape is an incident that is used according to atmosphere in order to build the external environment for smart human and their souls [17].

Landscape is a live creature that is the production of human relation with the environment and mind. This
sentence “It is alive” means that it is always changing. It is obvious that in designing the landscapes with the purpose of creating different external atmospheres, paying attention to landscapes is fundamental [25]. The landscape architecture is a visual and mental event that is shaped in external atmosphere. It appears in the minds of human beings and in other words is the production of vision and mind. So the landscape architecture is not only forming the atmosphere and is in connection with mind and due to the changes of the time and related to people’s beliefs, it varies [11].

The purpose of landscape architecture is humanizing the atmosphere and organizing the visual atmosphere. In other words the other purpose of landscape architecture is designing the external atmosphere that has important meanings compared with constructions [1].

Landscaping refers to every activity that changes the significant features of an area on the earth. Such as:

1) Live elements: like planting of the earth, animals or what are called gardening which means the art of growing the plants with the purpose of producing a beautiful atmosphere in the landscape

2) Natural elements: such as the forms of the earth, the forms of plain forms, the forms of heights and water

3) Human elements: including different forms of land that are produced or installed with human beings, such as structures, constructions, fences or any other materials

4) Permanent elements: like air and light condition

5) Transitory elements such as lighting and weather conditions

Landscaping is knowledge and art and requires well observation and designing skills. A landscaping designer feels the produced elements and combines them [24].

Every atmosphere is a landscape if they are used, otherwise they cannot be called landscape.

QUALITIES AND PRESENCES OF LANDSCAPE ARCHITECTURE

Designing new places or rebuilding the new or old places, the landscape architects follow the moral, ecological, social, beauty and philosophy models. The qualities that are represented in the following are the results of designing experience and are effected widely by the environment and social philosophy and also designs of beauty feeling [4]. Here, I mentioned seven symbols and quality of landscape architecture and details of each of them is given in the table 1.1 and 2.

ASPECTS OF SENSATIONAL FEELINGS OF LANDSCAPE ARCHITECTURE

Feeling is experiencing with sensational organs. Feelings are mental constructions that include knowing and judging. So the sensational feeling of a place is imaged in the audience mind in the result of physical synergy [13].

Table 1.1. Qualities and symbols of landscape architecture and their characteristics.

<table>
<thead>
<tr>
<th>Qualities of Designing Landscape</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
<td>- Using the experiences of people in landscapes</td>
</tr>
<tr>
<td></td>
<td>- Feeling the processes and natural systems, protection, upgrade or repairing them(replying people, nature and the environment)</td>
</tr>
<tr>
<td>Originality</td>
<td>- The thing that places should be</td>
</tr>
<tr>
<td></td>
<td>- The feeling of the places like they are (thing that a certain context can change)</td>
</tr>
<tr>
<td>Recycling</td>
<td>- Recycling and trapping materials, construction and planting</td>
</tr>
<tr>
<td></td>
<td>- Developing the purposes of landscape</td>
</tr>
</tbody>
</table>
- Advantages of environment and beauty discoveries of planting
- Advantages and meanings of a landscape
  (discovering the advantages of site and feeling them for more information of development)

Uniting and Power
- Using activities and different experiences for large amounts of people
- Using them at the same time
  (as a united powerful whole, widespread and flexible)

Mysterious, Clearness, Complexity and Arrangement
- Being mysterious: searching the places for combining them.
- Clearness: easiness of a place in reading and building
- Complexity: varieties the components in a place
- Arrangement: the places being related
  (Emphasis on the whole characteristics for easy guidance at the same time)

<table>
<thead>
<tr>
<th>Qualities of Designing Landscape</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uniqueness and Variety</td>
<td>- Having uniqueness, not existence of varieties = permanent</td>
</tr>
<tr>
<td></td>
<td>- Various, without uniqueness = messy</td>
</tr>
<tr>
<td></td>
<td>(in search of a balance between uniqueness and variety considering variation for raising the people’s emotions)</td>
</tr>
<tr>
<td></td>
<td>- The qualities of uniqueness and maturity (completing and putting together the different parts and the whole forms and components of landscape)</td>
</tr>
<tr>
<td>Theory of Patience and Ambush</td>
<td>Focus + exclusiveness + ambush + landscape = suitable expectation</td>
</tr>
<tr>
<td></td>
<td>(expectation in producing ambush)</td>
</tr>
</tbody>
</table>

The methods of improving sensation:
- Improving sensation through material technique.
- Improving the sensation through using the whole sensational organs through color, surface and volumes.
- Improving the sensation through considering the large and powerful visual complexity.
- Improving sensation through providing miracles and visual mysteries.
- Improving sensation through commenting or reforming the suitable mental imaginations [27].

The factors of sensational improvement can be divided into two categories:
Physical factors: the meanings of fullness and emptiness, proportion, style, color, details.
Visual factors: Nature and constitutive elements of appearance, context and knowing typology of the greenbelt elements [27].

The feeling-cognition process can be explained as a process that the sensational motives change to mental elements. In this process several chapters are identifiable, such as identifying the model, form, referring to
the meaning of form, entering the emotions in these contexts and at the end the audience behavior toward the last four parts. Since most of our perceptions from the environments are perceived by vision the designer should be expert in utilizing the visual motives to produce the certain feelings.

Table 2. Perception aspects of atmosphere and landscape. Source: Author adapted by [13]

<table>
<thead>
<tr>
<th>Sensational aspects</th>
<th>Time aspect</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The process of moral feeling</strong></td>
<td>Mortal and passing definition of atmosphere and landscape</td>
</tr>
<tr>
<td>Identifying the model</td>
<td>Atmosphere and landscape as rhythm</td>
</tr>
<tr>
<td>Identifying the form</td>
<td>Atmosphere and landscape in different periods show the various feelings. These rhythms are perhaps the most purified way of describing system and process which is period movements toward the genetic by nature.</td>
</tr>
<tr>
<td>Relating the meaning to form</td>
<td>Daily rhythms Day and night, defining the light and darkness and the effect on perceiving the atmosphere. During sunrise and sunset atmosphere and landscape looks flat and loose color. At this moment the observer becomes more sensitive to not visual motives like sounds. Finally at night from vision point of view another landscape is created, the distances look farther. Vision observes the sky and the feelings of hearing, smelling, tasting and touching senses become more powerful.</td>
</tr>
<tr>
<td>Season rhythms</td>
<td>Spring, summer, fall and winter are the symbols of Birth, adolescence, oldness and death. Atmosphere and landscapes are in relation with sequent rhythms such as pioneer, location, primary sequence, secondary sequence and repeated imagination. These rhythms are relatively predictable and the progress relate on the climate. But the rhythms are unpredictable yet, because regretting can interfere with process in every time. So it can be said that these rhythms are performed as hay wire (according to the messy theory that says the realities are deprived from eternal</td>
</tr>
</tbody>
</table>
Entering the emotions in meanings

Atmosphere and landscape as sequence landscape

History factors

Atmosphere and the ecological factors

With the environmental variations and landscapes in every moment of historic factors, the present factors and the raw materials of the future environment and landscape will be built, are represented.

The behavior of the observer toward the last four parts

Present factors

Future factors

Furthermore, he should be able to improve the other visual feelings by other suitable motives [13].

Landscape is the other form of place and is the result of human connections and the environment in external atmosphere. Landscape is not produced accidentally, but it is produced by the experience of human beings and is produced slowly [12]. Urban landscape is a part of the shape of the city that the audience perceives it. In other words the shape of the city in urban landscape changes to the significant and direct quality. This means the urban landscape is the perceivable vision and the perceivable atmosphere existing in our city [7].

Urban landscape is the bundle of environmental motives. These motives send informations to the citizens that enable the environmental feeling in our mind. It is based on these information and feelings that the inhabitants of those atmospheres judge. These motives perceive the human beings sensations and the feeling process is processed by mind. This information not only consists of form, function and the meaning of atmosphere, but also consists of the distances of boarders. The opposite boarders and in fact, the boarders of atmospheres [22.] (Table 2).

Table 3.1. Table of the principles of organizing landscape architecture and their features and comparing them with musical features.

<table>
<thead>
<tr>
<th>Principles of Organizing</th>
<th>Features</th>
<th>Shapes</th>
<th>Equivalent in Music</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axis</td>
<td>- It is a line that around it are the organizing elements.</td>
<td><img src="image" alt="Axis" /></td>
<td>The axis having</td>
</tr>
<tr>
<td></td>
<td>- Most of the symbols of power around the axis are found.</td>
<td><img src="image" alt="Axis" /></td>
<td>horizontal lines of</td>
</tr>
<tr>
<td></td>
<td>- The axis may be used for handling the eye from one part to another.</td>
<td><img src="image" alt="Axis" /></td>
<td>sound, vertical</td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image" alt="Axis" /></td>
<td>accords, parallel in</td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image" alt="Axis" /></td>
<td>counterpoint,</td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image" alt="Axis" /></td>
<td>transverse line and</td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image" alt="Axis" /></td>
<td>loxodromic in the</td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image" alt="Axis" /></td>
<td>modern harmony</td>
</tr>
<tr>
<td>Unitizing</td>
<td>- Uniting the segmented designing</td>
<td><img src="image" alt="Unitizing" /></td>
<td>Allied notes of music</td>
</tr>
<tr>
<td></td>
<td>- Feeling the combinations in one unit</td>
<td><img src="image" alt="Unitizing" /></td>
<td>and unition in music</td>
</tr>
<tr>
<td></td>
<td>- Being allied</td>
<td><img src="image" alt="Unitizing" /></td>
<td></td>
</tr>
</tbody>
</table>
Arrangement - The manner of adaptability of elements to the atmosphere  
- Related to elements relations  
- Having integration between each other with the presence of variations  
Harmony of arranged sounds (Harmonization)

Attraction - Curiosity with the attention  
- Various of forms, size, color and change in direction, movement and sound  
Anything that has visual beauty and produces attraction  
Attraction in music (the sound attraction of the around tones)

Table 3.2. Table of the principles of organizing landscape architecture and their features and comparing them with musical features.

<table>
<thead>
<tr>
<th>Principles of Organizing</th>
<th>Features</th>
<th>Shapes</th>
<th>Equivalent in Music</th>
</tr>
</thead>
</table>
| Sequence of Arrangement  | - In complicated combinations, sequence of arrangement for providing tidiness of the components is essential.  
- The algorithm of communicative sequence is in order. | ![Sequence of arrangements in musical forms and keeping the notes orders](image) | Sequence of arrangements in musical forms and keeping the notes orders |
| Differences and Variations | - The opposite of simplicity  
- Enough and suitable variation that produce attraction | ![Producing variations at good times to provide attractiveness in music](image) | Producing variations at good times to provide attractiveness in music |
| Emphasis and Concentration | - Emphasis and Concentration are domination of the most important element in landscape.  
- It is achieved by effective usage.  
- A mass of aggregations among small aggregations.  
- Decoration and concentration on the elements or components complete the principles of emphasis. | ![Metric emphasis, structural emphasis and emotional emphasis in music](image) | Metric emphasis, structural emphasis and emotional emphasis in music |
| Balance | - The state of cognitive equilibrium  
- Balance includes permanence in order to produce satisfaction and security  
- Balance in landscape compositions | ![Musical balance](image) | Musical balance |
usually means alignment depending on the vertical axis and the vision.

**Table 3.3.** Table of the principles of organizing landscape architecture and their features and comparing them with musical features

<table>
<thead>
<tr>
<th>Principles of Organizing</th>
<th>Features</th>
<th>Shapes</th>
<th>Equivalent in Music</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symmetry</td>
<td>- The symmetry may be axis or center like. - The resonance combinations are permanent and calm.</td>
<td>![Symmetry Image]</td>
<td>- Symmetry in musical bearer - Symmetry in amounts and notes - Symmetry in themes and dignity</td>
</tr>
<tr>
<td>Rhythm</td>
<td>- Rhythm may be produced in every dimension - Rhythm can be complex and produced of repeated shapes rather than one shape - Rhythm causes better combination and at the end causes improvement of designing</td>
<td>![Rhythm Image]</td>
<td>Rhythm and beat is the intentional and pleasant repeating in music that is related to time.</td>
</tr>
<tr>
<td>Criterion and Proportion</td>
<td>Proportional comparing height, length, area, volume and capacity</td>
<td>![Proportion Image]</td>
<td>Presence of mathematical proportion and comparing numbers in music</td>
</tr>
<tr>
<td>Permanence</td>
<td>- It can be related to space or time. - In some algorithms a repeated shape in a special size and criterion, represents permanence. (Fractal geometry) - Permanence shows long term and permanent structural that make the scene to change</td>
<td>![Permanence Image]</td>
<td>Permanence and duration of musical constructions in some compositions and accords</td>
</tr>
<tr>
<td>Similarity</td>
<td>- The more the elements are similar, the more they are connected.</td>
<td>![Similarity Image]</td>
<td>- Similarities in the themes of music</td>
</tr>
</tbody>
</table>

Significant feelings of urban landscape are not only in visional elements, but also the sounds of the environment, smell and other impressive things on the feelings of human beings play role. On the other hand, landscape is not limited to our world and is always in connection with mind which is more ordinary than a visual look [18].

**THE PRINCIPLES OF ORGANIZING ARCHITECTURE LANDSCAPE**

Perceiving of the observer and enjoying of the near atmosphere is related to two factors, first: necessity of producing temptation of new experience and secondly: the necessity of knowing the design. First is the answer to these variations and the second principle is answering the permanents. These answers require
paradox. Feeling requires variation and new information and at the same time searches for security in arrangement and repetition which is a similar model that has an unpredictable variation and will provide beautiful satisfaction [19].

In all fields of designing the arrangement of components are important. For arranging the models, designers have sorted special principles [20].

Presenting the principles follow three rows. First the primary elements that the whole landscapes are made by them (main elements). Each of these main elements may come with different methods (variations). These elements may be organized with different methods (organization). The combination of these three areas, their varieties and arrangements explain these models which could be found in the existing landscape or create new visual models [2].

**The fundamental elements:** period, line, surface, limited volume and open volume.

**Variations:** amount, location, direction, size, shape (form), sequence, tissue, density, color, time, light, the forces of vision and exertion vision.

**ORGANIZING**

**Goals:** variation, uniting, place feeling.

**Spatial signs:** nearness, limitation, combination, permanence, similarity, shape and context.

**Constructive elements:** assonance, confront, rhythm, proportion, criterion.

**Arranging:** axis, polarity, sequence, element and the adapted shape [2] (Table 3).

The aim of using the principles of beauty in designing is reaching to a united and arranged part. Feeling the united in designing is an exclusive emotion that is resulted from the combination of arrangements. Each part is the other part compliment and even with their differences, they are a united system. Reaching to uniqueness in designing with using the principles of beauty which mean: simplicity, variation, emphasis, balance, criterion sticking to the visual features arose from physical characteristics of producing designs which are: form, tissue and color [16]. That each of these factors is known as a quality of music.

**CONCLUSION**

In fact, music produces a kind of space in mind by organizing the sounds and art of melody producing that is called music scene. In other words, these qualities are certified as how these sound managements next to each other produce music scene and appear the beauty in mind.

The qualities of designing landscape and perception aspects of atmosphere and landscape well shown and each of the mentioned principles in organizing the landscape architecture, are known as principles of beauty and vision. The principles that following them in the process of designing will provide acceptable organizing. These principles in music are also grouped in principles of beauty and qualities of music in a way that equivalent of these principles in landscape and music are analyzed to help us reaching to the meaning. When these principles are used in principles of designing and organizing of landscape architecture beauty, there are exactly base principles in music to produce the musical sounds and as a result musical qualities are taken into account in landscape architecture.

**APPENDIX**

1) Arthur Schopenhauer

2) Suite which means bead consists of some components that are written in Tonality and mostly they own dance rhythms and can have different characters [14].

**REFERENCES**


F. Ching. Architecture; Form, Space and Order. New Jersey: John Wiley & sons, Inc. 2007.
ACQUISITION OF IMMOVABLE PROPERTIES BY FOREIGNERS IN IRAN

Asghar Khalafi
Master of Arts Student, Department of Law, Shahid Ashrafi Esfahani University, Tehran Iran

ABSTRACT
The general principle in Iran is that each foreigner can have all civil rights except in cases where the law has made exceptions (Article 961 of the Civil Code). The implementation of this principle is subjected to compliance with the Paragraph 8 of Article 43 of the Constitution that says: foreign economic domination over the country's economy and also Article 53 of the Constitution provide any contract that leads to foreign domination over natural and economic resources is prohibited. Foreigners will benefit from private rights in a reasonable way unless the law has determined limitations for them. According to Iranian laws, a foreigner is the one who does not have Iranian nationality. The philosophy behind this fact that governments are more cautious about foreigners regarding the acquisition of immovable properties is that unlimited and unconditional granting of this right probably leads to losses for the country as well as the intervention of foreign governments in the country that has these regulations. Foreigners are only allowed to acquire immovable properties in Iran based on these treaties, but about state citizens that do not have any treaty with Iranians, they can acquire non-arable properties in Iran subject to treaties. In order to attract foreign investors in Iran, it is necessary to prepare conditions where the permanent citizens can invest in Iran with confidence. The experience of free zones in the world such as Jabal Aly, United Arab Emirates, Ahaymn and Chania shows that in these locations, first, the infrastructures were prepared but in Iran, this is quite opposite where the free zones were closed and then, the infrastructures were prepared. One hundred percent ownership of foreigners’ immovable properties can provide confident and suitable infrastructure of foreign investment.

Keywords: immovable properties, foreigner, free zone, acquisition

INTRODUCTION
The developing trend of communication in today’s world, the role of economic, political and cultural relations development between governments, the important place of foreign investment in economic development and the need to attract these investments and the importance of friendly relations with other nations, have opened the boundaries for other nations in an unavoidable manner. The prediction of mechanisms that support the rights of foreigners as well as legitimate resources of foreign investors based on the Constitution, are necessary for facilitating the relations and duties of the governments. In our religious and national teachings, the observance of the rights of foreigners and ethnic and religious groups has always been emphasized and some of the principles of the Constitution and civil law are dedicated to this issue. However, there are limitations and duties in this context that are contrasted with the political and private rights of foreigners. Regarding the ownership of immovable properties by foreigners, there are laws and regulations that consider the danger of foreigners’ ownership as well as the reoccurrence of Capitulation. In this regard, this study aims to have a quick look at the rights and assignments. Therefore, first, the definition of foreigners and their legal rights was presented and then, these regulations and assignments were investigated based on four dimensions of public, private, political, and personal affairs.

Research Hypotheses
1. Foreigners who do not live in Iran can have acquisition right with special conditions.
2. Foreigners’ acquisition is subjected to acquisition regulation conditions of foreigners.
3. Foreigners do not have the acquisition right regarding arable lands in Iran.

3. The General Principles of Immovable Properties Acquisition

3.1. General Principles
The general principle in Iran is that each foreigner can enjoy from all civil rights, except the cases where the law has made exceptions. The Article 961 of the Civil Code has stated this principle in this manner: “except in the following cases, the foreigners will enjoy from the civil rights:”

1. The cases where the law is explicitly dedicated to Iranian citizens and has denied any right for foreigner citizens;
2. About the cases related to personal affairs where the laws of the foreigner’s government have not accepted them;
3. About special rights that have been purely created based on Iranian society’s point of view (Article 961 of the Civil Code).

3.2. The Definition of Foreigner Citizens and its Divisions
Citizenship refers to the condition where person’s legal and moral aspects belong to a government. The person that is a citizen of a country, will enjoy from rights and duties. In citizenship, the relationship between person and the government is a legal, spiritual relationship with political nature. The existence of citizenship bond between the person and the government creates the situation where people in all foreign countries will benefit from political support of the government [1].

3.3. The Definition and Types of Immovable Properties
Immovable property is a legal term that is used for the property that cannot be moved from one place to another place (Langeroudi, 2012, 16), such as land and mine. If in practice, the financial transfer is possible, but due to this change, the location undergoes damage, it will be considered as immovable as well [2]. Properties is the plural form of property and in literal form means willing, properties and facilities, goods and wealth and anything that in owned by somebody [3].

3.4. Background and Comparative Comparison of Iran and Other Countries
The Article 8 of the Civil Code says: “the immovable properties that are owned by foreigners in Iran are in all cases under the supervision of Iranian laws and the Article 966 of the Civil Code has clearly stated this principle and provides that all properties and rights over movable and immovable objects will be owned by the country of interest”.

3.5. Types of Foreigner Citizens’ Rights in Iran
In a general division, the rights of foreigner citizens are divided into three categories of public, political, and private rights. Personal affairs are also among the private rights of people that will be investigated separately regarding the importance and specific features [4].

3.6. The Political Rights of Foreigner Citizens
Political rights consist of those rights that are only attributed to interior citizens and the condition to benefit from them is citizenship description. Therefore, foreigners are not basically benefited from political rights and the philosophy behind this is to prevent interference of foreigner citizens in internal and political affairs as well as the conflicts of the foreigner country’s interests with the political right donor country [5].

3.7. The Private Rights of Foreigner Citizens
The possibility to enjoy from personal rights and having communication with real and legal persons in the realm of private rights for foreigners are allowed except in special cases. The Article 961 of the Civil Code of Iran that is derived from French Civil Code has recognized the civil rights of foreigners, except in the cases where the law has explicitly dedicated them to Iranian citizens or has disclaimed for foreigner
citizens such as the ownership of arable lands as well as a part of rights related to personal affairs that the
host government has not accepted them such as the right to divorce, number of spouses as well as special
rights that have been exclusively created by Iranian society such as trusteeship on Iranian obsolescence or
alimony. In other cases, foreigners will benefit from civil and private rights. Some of the mentioned rights
are predicted by political treaties and others by the law, absolutely or based on treaties or according to
reciprocal transaction.

3.8. The Personal Affairs of Foreigner Citizens
The personal affairs of each person consist of topics such as capacity, marriage, divorce, parentage,
inheritance, and wills. Articles 6 and 7 of the Iranian Civil code have considered the personal affairs of
Iranian citizens living in foreign countries under the Iranian law and accordingly, the personal affairs of
foreigner living in Iran are based on the Iranian law. According to the Iranian lawyer, since personal
regulations have been determined to support people, they should not be changed with any change in
person’s location and should stay stable and consistent as far as possible [6].

3.9. Acquisition Formalities
Acquisition formalities of foreigner citizens follow the acquisition regulations of foreigner citizens
approved in 1949. The foreigner who asks for acquisition, assures that whenever he or she wants to
transfer his or her residence to out of Iran permanently, should transfer the residence of interest to one of
Iranian or foreigner citizens until six months; otherwise, the registration office with the permission of the
Registration Organization, auctions the property and after selling and deduction of costs, gives the rest to
the owner. According to the Paragraph (c) of the Article 3, “in the host country, Iranian citizens,
institutions and companies have acquisition right and at least can gain the same amount of property”. This
is exactly what was mentioned in Article 8 of the Civil Code. Immovable acquisition is not only subjected
to permanent resistance of foreigners. Therefore, the Article 1 of the administrative regulation approved
by 13/7/42 states: “those foreigners that come to Iran for touristic and seasonal purposes in regular
travels, should follow the following steps whenever they decide to have personal residence”.

3.10. Formalities of Foreigners’ Immovable Properties Acquisition in Iran and Other Countries
The court of arbitration of conflicts between Iran and the United States is an international entity that has
been established by Iran and the United States following the Algeria statements. Among the jurisdiction of the
court, it can be referred to solving the conflicts between Iranian citizens and the United States as well as American citizens against Iran. However, court’s jurisdiction about the
conflicts of these governments’ citizens includes a hierarchy of conflicts that stem from contracts, debt
expropriation, and any action affecting the ownership that determine relatively vast areas. But the
personal jurisdiction of the court is limited and specific to the parties.

3.11. Supporting Foreigners’ Properties
Basically in each country, foreigners’ properties are supported by law similar to Iranian citizens. But in
the case of immovable properties, usually in order to prevent any penetration from strangers, countries
consider limitations and conditions regarding the ownership of immovable properties by foreigners to be
able to control this condition. Only, considering certain criteria, a foreigner who has the required
conditions, can gain ownership over immovable properties. Otherwise, there would be opportunities for
abuse by foreigners [7].

3.12. Expropriation from Foreigners
In Iran, expropriation from foreigners has been predicted upon the payment of fair compensation and
treaties. Therefore, no property can be excluded from owner’s ownership but with legal license after
determination and payment of a fair price. In the last part, the Article 7 of the contract between Iran and
Belgium states: “it is not possible to expropriate the ownership of the aforementioned citizens and avoid
their access to their properties even for a short period of time, but according to that conditions and instead of giving compensations that have been appointed in the local regulations.

3.13. Acquisition of Foreign Governments Agencies
Asking for the acquisition of embassy or consulate or dependent institutes in Iran by the foreign government should follow political ways. The council of ministers is responsible to confirm this request. This agreement is announced by the Ministry of Foreign Affairs to the Registration Organization. The condition for confirming this request is that the same condition should be available in the other country. The Article 5 of the Regulation has been accepted with a little difference in Article 10 of acquisition demand bill for embassies, consulates, residences of the ambassadors or embassies’ institutions as well as agencies of international organizations based upon reciprocal action and the agreement of Council of Ministers and positive opinion of Ministry of Foreign Affairs.

3.14. The Acquisition of Several Housings by Foreigners
About this case that can a foreigner have several housings subject to the provisions of Regulations 1964 and 1968, the Regulations have nothing to say and did not point to this issue. But the Article 57 of the Regulation 23/1/1964 that has been canceled by Regulation 1968, stated that if the applicant asks for more than one housing in Iran and his condition is considered appropriate by the commission, the commission can agree with his request.

4. Acquisition of Immovable Properties by Foreigners in Economic Trade Zones
4.1. Acquisition of Immovable Properties by Foreigners in Economic Trade Zones
According to the law of acquiring immovable properties for foreigners and its regulation, acquiring immovable properties in Iran by foreigners has limitations and is only possible in limited cases and through special process with the approval of the Council of Ministers. According to the Article 2 of Foreign Investment Promotion and Protection Act, the acquisition of immovable properties in Iran is not possible with the title of foreign investor, but according to this Act and its administrative Regulations, if the foreign investment creates an Iranian firm, the acquisition of the land will be based on the title of the investment plan.

4.2. The Definition of Free and Special Economic Zones
According to international definitions, the free zone is the supervised port and non-port area where that includes some of regulations from the foreign country and promotes the development with its special features such as tax cuts, profit and custom duties relief, absence of formality currencies, administrative obstacles as well as facilitation in export and import processes with attracting foreign investment and transporting technology to the original land.

4.3. The Economic and Political Atmosphere of the Country
Overall stability and friendly economic and political atmosphere are necessary for trading and investment and the first and long-term step towards the agreement of export processing zones. In addition to primary incentives, this process includes stabilization and uniformity of macroeconomics policies (monetary and fiscal) as well as exchange rate. Where these policies are deviated from the primary principles, the performance of export processing zones has been involved in trouble.

4.4. Comparing the Immovable Properties of Foreigners in the Free Zones of Iran and Other Countries
Generally, the goals and philosophy of special zones in the world can be stated as follows: 1. Attracting foreign investments 2. Creating new business opportunities 3. Earning revenues and increasing exportation 4. Achieving advanced technology 5. Attracting domestic currencies and helping to control inflation 6. Eliminating deprivation from areas that have potential development possibility.
On the other hand, the Article 1 of How to Manage Free Trade-Industrial Zones of Islamic Republic of Iran, approved by the Parliament by September 12, 1983, states the goals of Free Trade-Industrial Zones as follows: investment and increasing general revenue, creating productive business, regulating labor and product market, active participation in global and regional markets, production and exportation of industrial goods and public servicing.

4.5. Evaluating the Performance and Damages of the Free Zones
The purpose of establishing free zones in Iran, like other parts of the world, is to transfer technology, earning revenues, and creating a centerpiece for transporting good. But since the other goal of creating these zones in Iran is regional development, the issue of location will become significant because Iran’s free zones are around the country. More knowledge and technology will be presented by these zones.

4.6. Conditions and Success Factors of Free Zones
The consistency of free zones with national economic strategies, legal jurisdictions, access to infrastructural facilities, public servicing, appropriate administrative organization, economic policies stabilization, transporting industrial culture and technology, coordination between people and executors, support by the government, providing social life and work are among the success factors in free zones [8].

4.7. Legal Challenges of Free Zones in Iran
Law on Administration of Free Zones of the Islamic Republic of Iran and its administrative regulations are the main legal references of the free zones. This law was approved in 1993 and after that underwent some changes. Also, in fourth and fifth developments plans, separate provisions were approved regarding the free zones. By now, the existence of ambiguous points in these regulations and some of legal limitations have weakened the free zones to achieve some of the predicted primary goals. In the following, some of the legal ambiguities available in free zones’ regulation will be briefly presented [9].

4.8. The Added Value Created in Free Zones
Difference of opinions between customs and free zones management in implementing the provisions of Paragraph “C” of the Article 35 of the fourth plan for production goods processed in free zones are considered while entering other parts of the country based on the total added value and the value of internal material and it will be exempted from paying the input rights. Also, “Note 1” of this paragraph states that foreign primary materials and goods used in production subject to the payment of input rights are considered as domestic goods and primary materials. This has been repeated in Paragraph “B” of the Article 112 of the fifth plan, but “Note 1” of this Article still is in its force that could not eliminate the ambiguity in the Article.

4.9. Comparative Investigation of the Free Zones of Iran and Selected countries
Regarding the comparative investigation of infrastructures in free zones of Iran and some of other areas, it can be concluded that government’s policy in creating infrastructures has created the bases from the revenues of free zones after opening and starting the activities of free zones. At the same time, the experience of successful free zones such as Jabal Aly, United Arab Emirates, Ahyamyn and Chania shows that in these locations, first, the infrastructures were prepared but in Iran, this is quite opposite where the free zones were closed and then, the infrastructures were prepared. Indeed, in order to select the investment location, the investor examines the available infrastructures in that area and if the infrastructures are not enough, selects another area and this has largely affected Iran due to the existence of Jabal Aly, United Arab Emirates in the middle-east [10].

5. Conclusion
Free economic and trade zones are one of the most important areas for non-oil exports and economic development in order to facilitate the infrastructural and constructional affairs as well as foreign investment and the presence of domestic goods in international contexts with the goal of foreign positive
payments and transporting advanced technology and communication with other countries. In this regard, the government should provide a systematic structure and policy making regarding the Perspective Document of 1404 and its goals. Generally, the obstacles ahead of the free zones in achieving the determined goals can be included in lack of prerequisites for the success of these zones as well as challenges in the regulations of these areas. A false policy that has made these zones far from the determined goals, is the provision of infrastructures from the revenues. This issue has forced the free zones to concentrate on imports to provide the required sources. On the other hand, the experience of free zones by other counties such as Jabal Aly, United Arab Emirates shows that these zones have gained the benefits after the provision of infrastructures. The existence of suitable infrastructures besides facilitative regulations have made Jabal Aly as a suitable place for foreign investments. Also, the existence of motivational policies in free zones is another prerequisite to attract investments in free zones. Comparative comparison between the motivational policies of free zones of Iran and other countries shows the limitations in necessary derivations to attract foreign investors in Iran’s free zones. Therefore, it is concluded that in order to achieve the determined goals in free zones, it is necessary to have a general review regarding some of the policies in these zones.

REFERENCES
The administrative regulation for transferring land and natural resources in free zones, approved by the Council of Ministers (1994).
RENEWAL OF INSUFFICIENT URBAN TEXTURES EMPHASIZING ON EMPOWERMENT APPROACH (CASE STUDY: HEJRAT STREET TO PIRNIA BRIDGE IN SHIRAZ CITY, REGION 3)

Mohammad Reza Hassani
Urban planning graduate student, Yasooj Branch, Islamic Azad University, Yasooj, Iran

Alireza Abdolahzade Fard
Assistant professor of Department of Urban design, Islamic Azad University, Safashahr branch, Safashahr, Iran

ABSTRACT
Despite many efforts and dialogues on sustainable urban development in the scientific assemblies, cities of the country encounter with increasing unsustainability for reasons such as the lack of a comprehensive urban program and policy and unsustainable strategies. One of the manifestations of this unsustainability is the spread of urban worn tissues. Shiraz city like many cities of the country has not been immune from this problem. Statistical population of this research is studied neighborhood with an area of 52.8 ha. This neighborhood is one of the worn areas of Shiraz city, which encounters with a variety of issues and problems such as erosion of residential units, abundance of abandoned and dilapidated residential units and their distribution across the tissue, unfavorable appearance of the tissue, low width of passages, compression and horizontal expansion of the tissue, shortage of welfare- services land use, existence of incompatible land uses, and centralization of low income and low-profit people, high unemployment rate and social disorders. Therefore, any attempt to eliminate erosion from the neighborhood can be an effective step towards sustainable urban development. The present research has been conducted with the aim to achieve strategies of organizing this neighborhood. Its methodology is descriptive-analytical. Information has been conducted through two ways of documentary and field (observation, interview, and questionnaire). Quantitative and qualitative models means capitations standard, closest proximity method (RN), compatibility matrix, Holdren model, Pearson correlation coefficient, and ArcGIS and SPSS software have been used for data analysis. The results achieved from this research indicate that applying three general principles of "empowerment", "urban endogenous development" and "urban land uses organization" can play an important role in the sustainability of the studied erosion tissue.

Keywords: Erosion Textures organization, sustainable urban development, empowerment, urban endogenous development, urban land uses organization

PROBLEM DEFINITION
Old and worn Textures that exist in most cities of Iran had been once secure place and environment with comfort and welfare of its residents. This Texture had met their basic needs due to its culture, nationality and technology of that era and had been with an organic order (Beigzadeh, 2000: p. 1).

The early years of the twenty-first century had been accompanied with wonderful changes in human life. These changes in the context of globalization have affected economy, culture and social relations of human life. It has revealed reflection of these relations in spatial manifestations, especially cities (Razavian, 2002, preface).

Thereby several challenges and consequences have been also created in urban Textures and elements. Old Texture of cities is of these elements, which was under important effects on its own body and performance. Nowadays, the fate of cities is moving toward disharmony with its environment and context more as possible with urbanization development and modern physical interventions. It is so
that the contrast between old and new Textures is another form of industrialization crisis. It has disrupted continuity and possibility of relation, juxtaposition of layers and sustainable presence of new Texture beside the old Texture and has created a gap between those two. In cities with worn tissue, while the city has become empty from inside and is outwearing, its surrounding areas have been developed and are developing more and more. On the other hand, a wide range within the city has been abandoned as worn Texture and is collapsing every time more than ever. Expansion of the surrounding spaces is without formation of regional and zonal services centers. Most of service centers formed in new Textures is at the level of neighborhood centers and initial needs. Therefore, excessive pressure is created on the central infrastructures of central Textures in first chapter of research overview 3. Density in certain hours, traffic in peak hours, pollution and expansion of service and commercial spaces in surface and edge of the main streets are of its features.

On the other hand the weakness of the theoretical principles for dealing with these Textures had been an important factor in non-realization of organization of urban worn tissues. Unlike the western countries with a strong background in the formulation of theoretical principles, no serious action has been done in formulation of urbanization theories in our country. Everything that exists is an imitative pattern of some western urbanization theories or only the method of preparing urban organization plans has been imitated without the knowledge of theoretical principles.

This vacuum is somewhat more intense about intervention and rehabilitation of urban old tissues, because it's newer in Iran and lack of specific experience of the planned intervention. So that most of worn Textures organization projects have emphasized on physical dimensions and particularly the widening of passages.

**RESEARCH BACKGROUND**

Sadjadi, Jila and Habibi, Behzad: Social - spatial analysis of urban worn Textures in order to rehabilitate and prevent further erosion (Case Study: Region 17 of Tehran). The first conference on urban worn tissues, sustainable development perspective: Values and challenges, correlation between social, economic and cultural status of residents (low level of literacy, economic poverty, unemployment, etc.) and erosion of Texture of Region 17 of Tehran are proved in this article.

It suggests empowerment strategy for improvement in which local groups and communities solve problems of their living space autonomously until finally, the residents themselves meet their own needs with public support and provision.


History of urban improvement, renovation and reconstruction process has been investigated in this article by citing to the policies and programs of urban civil programs and the existing effects and evidences. The main objective of this article is to review and evaluate policies, goals and executive programs of urban civil, especially about urban old tissue. The number of managerial institutions and the absence of regular organizational structure in the planning and implementation of the affair of organization, absence of patter in organization projects and being sectional and based on taste, preparation of comprehensive and detailed projects with city peripheral development attitude, attention merely to the physical organization and neglect of social and economic dimensions of old tissues, neglect of public participation, lack of financial structure defined for organization actions, and so on have been identified of the major causes of erosion of old tissue.

So comprehensive and long-term, and completely systematic policies and organization based on the "theory of sustainable development with emphasis on urban endogenous development" in which a special attention is toward the dimensions of physical, social, economic, cultural, public participation, social justice and so on are recommended to organize old tissues.
Meshkini, Abolfazl and Ahaednejad, Mohsen: effect of policies of geologic provision in the process of erosion spread in old Texture of the cities (sample: Region 1 of Zanjan). The first conference on urban worn tissues, sustainable development perspective, values and challenges

**RESEARCH QUESTIONS**
Can the use of empowerment method among the various methods of worn Textures organization realize sustainable development of worn tissues?

What is the most appropriate form of service-welfare land uses distribution in new and worn Textures of Shiraz city to organize worn Textures of this city?

**RESEARCH METHODOLOGY**

A: information collection method: the required information has been obtained through the following ways and according to the studied topic and provided hypotheses:

- Library method includes: the use of documents, statistics and information existing in the censuses area, Persian and Latin texts, Internet sites related to the topic, as well as pictorial documents such as ethnic and non-ethnic maps;

- Field studies includes: objective observation, interview, and questionnaire

B: information analysis method: quantitative and qualitative evaluation of land uses models (including capitations, adjacency pattern, and pattern of land uses distribution (RN)), urban development models and correlation index have been used in information analysis method. Excel 2007 software has been also used to prepare tables and diagrams related to the topic. Spss 16.0 software has been used to analyze the collected data and information. ArcGIS 9.3 software has been used to receive and process information and create analytic and synthetic maps.

**RESEARCH FINDINGS:**

**ACHIEVEMENT OF WORN TEXTURES SUSTAINABLE DEVELOPMENT:**
Subject of promoting the quality of life while considering bearing capacity of the environment and responding to the needs of the present generation without creating limitations for the facilities of future generations to meet their needs is considered in all definitions related to sustainable development. In addition, it can be said that the idea of sustainability is a concept that considers four components of environmental, social, economic and physical simultaneously.

So, a comprehensive and holistic definition is posed on urban sustainability by describing these components and considerations related to urban sustainability.

Sustainable development of urban worn Textures indices after studying and reviewing the conducted research on subjects related to sustainable development are as the following tables:

<table>
<thead>
<tr>
<th>Creating sustainable urban development</th>
<th>Urban Sustainable Development indexes</th>
<th>sub-indexes</th>
<th>Urban Sustainable Development Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social</td>
<td>Partnership</td>
<td>Inclusive participant attraction of citizens in running local properties</td>
<td>Social empowerment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public participation in the preparation and implementation of urban plans</td>
<td></td>
</tr>
<tr>
<td>Equal opportunities for all individuals in decisions that affect their lives as well. Welcoming and support the presence of non-governmental organization</td>
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</tr>
</tbody>
</table>

| Education and informing |
| Attention to public education Providing occupational education and public education to help the workforce to the future needs Adequate access to public information Raising awareness of the living environment and protection of all it |

| Reducing social problems |
| Keep the place free from crime and delinquency Social security promotion |

| Sanitation and Health |
| Health promotion of residence |

| Sense of belonging |
| Establishment of the emotional bond between people and neighborhood |

| Social welfare |
| Population stabilization of the old town and preventing their migration to the new urban tissues Improve the quality of life level of residents |

**Continued Table: Sustainable development of urban worn Textures indices**

<table>
<thead>
<tr>
<th>Creating sustainable urban development</th>
<th>Urban Sustainable Development indexes</th>
<th>Sub-indexes</th>
<th>Urban Sustainable Development Strategies</th>
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<tbody>
<tr>
<td>Economic economic sustainable and dynamism</td>
<td>Creating sustainable and various economic base Attracting investments in the local economy Rising return on investment in the neighborhood Enhancing competitiveness of adjacency in attracting investments to deal with the rest of the city Enhance the value of the properties (land)</td>
<td>Economic empowerment and development of urban endogenous</td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
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</tbody>
</table>
| Raising the level of employment and income | Raising the employment rate and of revenue adjacency residents  
Reducing the unemployment rate  
Raising the stable financial sources  
Poverty Reduction  
Raising the purchasing power of people |
| Economic empowerment and development of urban endogenous |                                                                                                                                          |
| Efficiency                     | Using vacant lands and abandoned buildings  
preventing erosion of buildings as much as possible  
Spatial recycling and utilization of dilapidated urban spaces  
Encourage to integrate the fine grained parts  
A moderate increase in density |
| Endogenous development of urban |                                                                                                                                          |
| Permeability and promoting accesses | Widening of the passages  
Ease of movement with the use of new means of transport  
Immunization of streets and arteries  
Observing the hierarchy of roads and communication network  
Proper design of the arteries, in reducing traffic and transportation, reducing energy consumption and air pollution.  
Encourage people to walking  
Increase in public transport |
| Endogenous development of urban, mixed land use and physical empowerment |                                                                                                                                          |
| Composition and diversity of land use | Mixing residential users and services - welfare in order to enhance public welfare  
Creating new occupational opportunities near living place  
Regular distribution of land use and preventing their polarization  
Removal of incompatible land uses and convert them into the required land use of neighborhood  
Creating adequate service levels  
Urban user reorganization fit with capacity |
| Land uses organization with an emphasis on diversity of land uses, eliminating incompatible land uses and regularly distribution of them and endogenous development of |
of the environment
A ban on the development of land uses that leads to pollution such as noise and visual disturbance or loss of recreational opportunities.

<table>
<thead>
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<th>Creating sustainable urban development</th>
<th>Urban Sustainable Development indexes</th>
<th>Sub-indexes</th>
<th>Urban Sustainable Development Strategies</th>
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<tbody>
<tr>
<td>Quality Improvement (\text{environmental})</td>
<td>Creating appropriate urban infrastructure</td>
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<td>Being physical manifestations pleasant and visual for people</td>
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<td>Attention to human scale in designing spaces</td>
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<td></td>
<td>Preservation of natural landscapes in the neighborhood</td>
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<td>Anabasis load and maintain historical buildings</td>
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<td></td>
<td>Preservation and promotion of public spaces and lack of historical curtailment</td>
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<td></td>
<td>Increase the attractiveness and readability of neighborhood</td>
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<tr>
<td>Safety and Security</td>
<td>Reduction of air pollutants, audio and sewage</td>
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<td></td>
<td>Protection of water resources, land, energy and reduce consumption of non-renewable resources and preventing pollution of them</td>
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<td></td>
<td>Maintain and enhance levels of local green spaces</td>
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<td></td>
<td>Energy regulation for buildings</td>
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<td></td>
<td>Flow cyclical material recycling infrastructure in local ecosystems</td>
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<td></td>
<td>Estimating basic human needs and access to healthy air, water and nutrition</td>
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<td></td>
<td>*The security of adjacency from natural disasters (such as earthquakes) and abnormal events</td>
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<td></td>
<td>Environmental Empowerment</td>
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Continued Table: Sustainable development of urban worn Textures indices

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**Source: Author**

### (Swot) Information Measurement Table

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<thead>
<tr>
<th>Threats</th>
<th>Opportunities</th>
<th>Weakness Points</th>
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<tr>
<td>* Creating Pollution and unpleasant smell by vegetable oil factory in Shiraz</td>
<td>* Special position of the area because of existing Modarres ceremonial axis and historical - cultural axis of Hafez</td>
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<td>* Wrapping earthquake-prone range in the town</td>
<td>* Special position of area due to its adjacency the elements such as the tomb of Hafez Darvazeh Qoran, National Garden, Jahan nama garden and ...</td>
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<td>* Lack of elementary and secondary schools, and appropriate with resident population</td>
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<td>* Shahid Karandish terminals and creating attraction potential of tourist and traveler to the area</td>
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<td>* Assign a major contribution of surfaces to repair and destruction buildings</td>
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Socio-economic

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<tr>
<th>* Gradual loss of</th>
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- *existence of action potential and the establishment of tourism and catering*
- *possibility to take advantage of popular participation according to sense of belonging to Location*
- *with the nature of gateway*
- *Environmental health threat due to improper disposal of sewage and surface water*
- *Increasing risk of destruction? ????? Buildings and facilities due to lack of faith belong to the place by part of the population*
- *Unfavorable situation of the livelihoods of residents*
- *Low employment rate of women*
- *development of the activities in the informal economy and simple and basic business*
- *being low of prices of lands with residential land user*
- *unfavorable situation of the livelihoods of residents*
- *being high of the willingness to cooperate in matters of religious and neighborhood development*
- *The willingness of some residents to give up their property*
- *Much of the residents' willingness to rebuild and renovate residential area*
- *Much of the residents' willingness to financial participate and property retention in the improvement and renovation activities*

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<tr>
<th>natural landscapes as a result of high-rise near the river</th>
<th>of the mountain and its prospects good</th>
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<td>* severe failure and suddenly climbs and descents, on the skyline especially with the construction of new buildings</td>
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<td>*existence of juridical problems of residents and shopkeepers with the municipality</td>
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<td>*possibility of using the superior designs and suggestions</td>
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FORMULATION OF OBJECTIVES

Formulation of macro objectives
Major objectives have been formulated according to the set of the area features, the way of attitude of superior projects and the way of treatment of urban management system and assemblages and organizations involved in the studied area as follows:

Promotion of cultural - tourism identity of the area in order to play the main role

Promotion of performances level of urban scale and expansion of high activities

Functional - activity balancing of the area in order to promote the quality of life and quantitative and qualitative improvement of residence conditions

Strengthening urban management system by relying on attracting maximum participation of public institutions and economic efficiency of capital

Formulation of micro objectives
Micro objectives of the projecting form of spatial and visual organization, functional and activity structure, financial system and the way of participation, legal and social system and transportation system have been chosen Based on the posed macro objectives in order to organize, reconstruct and renovate the area. They are provided as follows:

Spatial and visual organization of the area
Hafez spatial, physical and functional-based organization as a connector factor of historical - cultural region to historical - cultural and tourism elements of eastern and northern areas of Shiraz city

Strengthening the spatial relationship between tourist attraction facilities existing in the area, and its adjacent areas with tourism spaces existing in southern, northern, and eastern areas of the area as a connector factor

Providing desirable visual and perceptual quality in creation of urban spaces

Creating facade, sign and altitudinal emphases in line with readability and diversity in perspective of axis of Hafez to Quran gate as one of the city's historical entrances

Strengthening spatial and visual relationship between tourism places, Dry River and northern and eastern highlands of the city

Preserving and organizing corridors of vision to natural landscapes and surrounding highlands

Strengthening the presence of Dry River as a natural landscape

Functional and activity structure
Functional refining of the area from activities inconsistent and incompatible with the role of area

Development of green spaces equipped in the northern and eastern edge of the area
Stabilizing the resident population and population loading in form of high communities

Providing suitable public and welfare services in centralization zones and axes in order to meet the needs of residents and referrers

Providing the required land uses and facilities and supportive of cultural - tourism potentials

Private Green spaces development in different land uses

Urban infrastructures network organization and expansion, especially surface water disposal system and sewerage network

Luminal structure design of the effective areas in order to maintain centrality of Hafez Avenue

**The way of participation and financial system**
Making-opportunity to attract private capitals in order to provide tourism services

Use of resident participation through applying local forces and attracting small capitals and obtaining financial credits and facilities in order to carry out public projects

   - Provision of facilities to encourage private sector investors to accelerate formation of complementary activities
   - Use of managerial tool and facilities of the governmental and public sector besides private sector and public participation

**Social system**
Increase the level of social interactions and treatments among people and people with officials

Increasing employment opportunities level for residents due to the creation of new and large-scale land uses

Formulating regulations and criteria of construction and building facade fits with the role and identity of the area

**TRANSPORTATION SYSTEM**
Reforming hierarchy functional system of the network

Creating and strengthening pedestrian axes according to the existence of attracting tourism pillars

   - Functional refining of traffic and organizing suburban traffic in the axis of Hafez
   - Increasing parking power capacity in the area according to the future needs and suggested land uses

**SUMMARY**
Development, from inside is one of the characteristics of Iranian cities. The age of the oldest cities of Iran in southwest of the country is 5,000 years. But we do not encounter with a problem as old Texture during the history of Iran country before this recent century. Changes resulting from globalization of the economy and culture affected social relations and consequently spatial relations.

Accordingly, coherent relation of urban elements collapsed and old Textures lost their position against new Textures and turned into stagnation. Destruction process of urban old Textures continues despite the provision of different improvement and renovation projects. This is because of various reasons, including managerial structure, absence of specific pattern, mere emphasis on physical dimensions, Local and sectional dealing with worn Textures and so on.

Undesirability of social, economic, physical indices in the studied area can be realized by evaluating these indices and comparing them with Shiraz city average and urbanization standards. Negative
population growth, high unemployment rate, low income of the household head, high percentage of illiteracy of headed households, residents of the region being immigrant, being abandoned and dilapidated and erosion of residential units, shortage of service-welfare land uses, and their undesirable distribution in the tissue, existence of incompatible land uses, low width of passages, and so on all imply the stagnation of the area in terms of sustainable urban development indices. Therefore, comprehensive, long-term and completely systematic policies in order to achieve sustainable development of the studied worn Texture are one of the important necessities. We suggested three strategies of "urban endogenous development", "empowerment" and "land uses organization" in this regard.

This pattern is in a continuous and coherent process see social, economic, cultural, demographic and physical issues together and for each other. It tries to provide a comprehensive and integrated program to organize worn tissues. Experience has shown that the primary methods and one-dimensional and unilateral programs while not removing the problems, but also they have caused a serious trouble in urban life system of the tissue.

So attention to various aspects and the topic and comprehensive and coherent planning based on components of economic, social, cultural, managerial, physical and so on at the scale of the neighborhood and the city ensures sustainable development of the studied worn tissue.

SUGGESTIONS

- The scope of cities' development to be closed and / or limited and the encouraging density for worn Textures to be defined to increase price of intramural worn lands. This is because if the urban area is open and the city is able to be expanded, in this case intramural lands price, specially worn Texture does not raise much. This is a risk that threatens investment in worn tissues.
- Organizing and improving the situation of worn Textures can be done by reforming the region spatial organization through reforming accesses network, reforming land uses incompatibility, and removing troublesome land uses or change the type of land uses and transferring travel-making land uses to other urban areas.
- Many commercial and administrative lands and so on in this region apply their influence at suburban extent. They are the origin of travel-making from other regions to the central part of the city. This process while creating heavy traffic, increases air and noise pollution and thus reduces the quality of life in the region.
- Emoval of this problem needs to transfer some land users, such as market to marginalized regions. The amount of demand for administrative, educational travel and so on to the region can be also reduced by the use of information technology and realization of e-government. And the excess land uses in the region can be changed gradually.
- Regional and zonal centers to be defined in new textures around the cities. The developments around cities merely with residential land use to be avoided. Intermixture of different land uses in new textures can reduce the amount of travels and the pressure on central texture. It can enhance the quality of life in old textures of cities and promote the tendency to live in the central textures of the cities.
- Organization of worn textures should be supported through planning policies and financing of the government and / or municipality. This is because the returns rate of these projects is low and investment risk is high. These two features makes local governments and states intervene in construction process of urban worn textures and support these projects by paying subsidies and granting credits.

In addition, global experience suggests also a kind of work organization and use of cooperative methods (residents' joint cooperative, financial suppliers, and local authorities) to develop construction in urban worn textures. This type of organization should be also experienced in our country.

- Process of planning and management of urban worn textures in Iran must take place based on participatory approach. This pattern is based on maximum public participation in the planning process
and implementation of renovation operations and reduction of the role of urban management institution (municipality) to provide software policies, supply infrastructural affairs, direct financial and technical facilities, and as much as possible to avoid hardware activities in implementation of the projects.

Early residents being stayed in the place, and preventing the movement of families to the periphery, undesirable spatial consequences of implementation of the project, such as poverty and informal settling in cities, preventing social texture disintegration and dispersion of the early residents due to neighborly and ethnic relations in these neighborhoods, benefiting the residents of these neighborhoods of the added value resulting from the implementation of renovation projects, providing the required financial resources through attracting public capitals in order to guarantee the implementation of renovation projects, and increasing supervision power of urban management to accelerate urban worn textures renovation activities in the country are of the objectives of the suggested pattern.

- Residents having privileges such as exemption from toll related to license to build and finish building from the municipality, the right of free split of municipal installation such as water, electricity, gas, phone, having registered and legal facilities related to property, reduction of administrative stages of construction and granting banking facilities with appropriate time of repayment and interest, applying supervision and provision of technical services to residents through existing civil institutions, such as engineering system organization, technical and executive consultants, provision of residents' temporary settling cost during the implementation of the project, and so on can be effective in developing public participation in implementation of the project.

- A single, strong, and participatory management in the local arena to be created in order to implement the project and carry out the necessary actions in this regard. Old texture municipality has been established in some countries in this regard. This institution direct and manage all actions conducted in these textures.

We encounter with managerial competition and plurality of managerial institutions in our country. Establishment of municipalities specific for these textures will not solve the problem of departmental and thematic management governing over urban management system of these textures. We in fact add another parallel organization to the country urban management system by this action.

- To prevent serious damage to the social and physical worn textures, limited and gradual intervention policy will be used instead of massive and sudden physical intervention in organizing them.

- Creation of traffic area in the central area of Shiraz city and establishment of numerous parking at the four corners of the central texture of the city in order to reduce traffic and bustle of the streets leading to this region.

- The role of people and participation of citizens in decision-making process and decision-making process had been pale. Public opinions and the actual residents of the texture are not observed in most of organization projects. The experiences of the last two decades suggest that the best projects will not succeed without the presence and participation of the people.

So defining a mechanism for effective participation of the people in the preparation and execution of improvement and renovation projects are considered of the important necessaries.

- Urban endogenous development strategy must be as victorious discipline- making strategy in a sustainable form to achieve Shiraz sustainable development. This while protecting the environment, prevents excessive expansion of the city and reduces the travel volume at the level of regions and neighborhoods.

Accessing such sustainability needs lands use planning based on pedestrian access as well as adding services in the whole city. Optimal use of intramural spaces, wastelands, dilapidated, abandoned and
worn, moderate increase in building density are considered of fundamental strategies to achieve pattern of "urban endogenous development" of worn tissue.

Urban endogenous development pattern with an emphasis on inner expansion of the city, the use of appropriate density and wasteland is the most appropriate expansion pattern particularly for cities that are with low density. This theory creates safer and more dynamic urban areas by intensifying land uses. It provides the possibility to support local businesses and services, greater social justice, and social interaction and thus more attention to facilities.

Quality of life indices (access to facilities, reduction of travel, health, and social interaction, etc...) and energy consumption from economical dimension and the environment are observed optimally.

- Attention to sustainable development of the Texture through the revival of physical-spatial identity and architectural values of the tissue, lack of unilateral emphasis on maintaining old buildings and works individually, and ignoring dimensions of their association with living situation, public spaces and culture of the people around it. This is because urban sustainability is possible by maintaining culture and history of the city, social cohesion, not with mere emphasis on physical improvement.

- The policy of minimum intervention of government and municipalities in the body of neighborhoods and buildings and minimum displacement of the residents of these areas, following extensive interventions that lead to social and economic disintegration of the neighborhoods and widespread displacement of their residents to be strictly avoided as possible in improvement and renovation programs of urban worn areas. This policy does not mean preventing increase of density, destruction, and renovation by the owners in worn areas.

- Re-integration and re-differentiation of registered plaques program in small blocks scale with maintaining local community interests to be implemented If needed, and priority to be given to integration of parts by the owners and / or by minor manufacturers' participation to solve the problem of micro-lithic and create the motivation of reconstruction.

- Urban worn areas and neighborhoods renovation services offices hold educational workshops by collaboration of the municipality to develop the local economy and empowerment of resident communities.

- Provision of educational, health, care, installation, sport, recreational and cultural services at the extent of the averages existing in the city and standards to increase the quality of life and improve socio-economic status of the residents of worn tissues.

So the first step in this regard is that the municipality as responsible system for this affair should create a municipal branch of renovation organization, which is representatives of municipality about urban worn texture in the area of the intended texture; so that this institution has all the legal authorities of the municipality and receives its power from it.

This organization will have a performance almost similar to regional civil organizations. Therefore, the executive institution entitled "civil and renovation organization of the neighborhood" within the geographical area of the neighborhood (region) will be created. The duties of this institution are of software type and will have the domain of management, guidance, supervision and control of implementation of renovation and improvement projects.

Decision-makers throughout the country for setting up such a base (establishment of representatives of institutions involved in the renovation affair in renovation organization of the neighborhood); in addition, they are part of the cabinet, Tehran's City Islamic Council and part of the judicature. They can make themselves obligated for superior executive cooperation and coordination implementation in the form of a time agreement of their subset institutions by superintendence of the region civil organization for effective communication of this organization with the people. Geographical Councils of the neighborhoods are suggested to be formed.
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The duty of this council is to identify the needs and priorities of the neighborhood residents through communication and conferring with them and direct budgets towards the neighborhood renovation priorities.

Another council entitled Thematic Council of the neighborhood is also suggested about setting different policies on renovation. This council is of the various stakeholders such as investors, professionals of the building, manufacturers and distributors of materials and NGOs. Its duty is to set fiscal and executive policies of renovation based on the priorities determined by the Geographical Council of the neighborhood.

Residents located in urban worn Textures and other stakeholders will pose their demands and requisitions through these two institutions. They will participate in making decisions, making policies and programs related to their living environment.

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COMPILING A DESIRABLE PATTERN IN RURAL VALUABLE TEXTURES WITH A TOURISTIC APPROACH

Abbas Arghan  
Assistant Pro in Department of Geography and Urban Planning, Semnan Branch, Islamic Azad University, Semnan, Iran,  
Abbas.arghan@yahoo.com

Navid Khajehhoseini  
Ms student urban planing at Islamic azad university of Tehran shomal branch,  
Navid.hosseini39@gmail.com

Adineh Meshkinfar  
Ms student urban planing at Islamic azad university of Tehran shomal branch,  
Adineh.meshkinfar@gmail.com

Nazanin Moafi  
Ms student urban planing at Islamic azad university of Tehran shomal branch,  
Nazaninmoafi@yahoo.com

ABSTRACT  
The villages, due to their vital function in providing several economic, residential and living requirements of rural community, possess a continually changing and dynamic Feature. Dynamics of villages can be considered in different social, economic, physical and spatial dimensions. This feature drives us to observe many changes in textures and the manner of human adjustment with environment. In addition, the villages with valuable textures have been interesting for internal and external tourists. It is worth noting that the textures of villages bear a lot of information on culture, customs and the ways which human being adjusts with environment. Present study examines the studied region using field and desk method and determines the ways of intervention in villages’ valuable textures. The texture of villages has been influenced not only by natural factors but also by human factors. These factors are so severe that have changed the nature of villages. So physical Features of villages are formed under influence of two general groups of factors, related to environment or nature and human. The villages are formed and evolved based on the interaction between natural and human factors.

Keywords: Texture of village, Tourism, Rural development, Repairing and Restoring.

INTRODUCTION  
The experience of implementing rural guiding plan in Iran, whether in present development textures related to comprehensive plans or in new development textures, related to the plans such as new villages and preparation projects, shows that these plans have not been successful in creating desirable rural environments.

With respect to the importance of the issues of sustainable planning, it seems that if these plans and physical intervention in villages are continued without attention to knowledge of planning in rural areas and its systematization in different stages of decision – making. Reaching high quality environment will not be guaranteed.
Rural life, villages’ insights into world and nature, their possibilities and knowledge in construction, production and ways of utility cause the components of environment to be formed with maximum effectivity and desirability at same time with simplicity and establishing a reasonable and complementary relation between each other.

Also, villages’ physical – spatial organization which reflects physical, economic and social values, is influenced by this Manner of functioning. Therefore, it can be deducted that the way of material and spiritual life in villages has a certain internal organization according to the nature of village and its’ economic, social and cultural structure.

PRESENTATION OF PROBLEM:
Rural textures have useful information for evaluating how much the process of formation and natural development of village body is influenced by different cultural, social, economic, ecological and environmental factors which are present in many villages of country.

Until today, village texture has been formed mostly in adaptation with local features of same village. Some limited but wide spread examples of influence of different local factors on body features of villages include use of appropriate building materials in hot, moderate and cold climates for coping with climatic problems, following water resources (spring, subterranean canal and water reservoir) in concentrating different functional centers, tendency to concentrate in agriculturally undesirable lands in villages where agriculture is more common, building two – story houses and limitation of yard extent in villages located in slope. These facts are the best guide in determine desirable roles of body planning of villages. Identifying these facts and drawing related regulation as well as processing resulted findings can be considered as general principles accompanied with the principles of city planning and architecture for development of village body and maintenance and restoration of rural textures.

METHOD OF RESEARCH
a) Complete description of research based on aim, kind of data and manner of formation:

1- Identification of the boundaries of studied region from topographic Maps;

2- Collection of statistics and basic information, and preliminary identification along with preparing needed maps;

3- Preparation of natural risks maps;

4- Preparation of applied maps of village texture,

5- Preparation of plans of architecturally valuable houses;

6- Identification of construction with historic and cultural values;

7- Collection of social – cultural issues and information.

8- Arrangement of information:

9- Presentation of results

B) Complete description of Method (Field – desk) and Instruments (observation and test, questionnaire, interview, note – Making and so on)

DATA COLLECTION
For gathering information in this research, field and desk methods of study were combined. In desk studies, review of resources and references to formal statistical resources and existing maps can be considered. Also, comprehensive plans of city-sanctioned laws of high council of city-planning can be proper reference for identifying the criteria.

The main tasks in field study include correction, editing, making the maps and spatial information up-to-date, and identifying the limits.

Theatrical Foundation:

Hanachipirooz and Mehrdad in their research entitled “policies, patterns and examples of restoration in the texture of Maimand village”, said that with respect to native and original pattern of Maimand region, effective measures had been taken to restore this historic village, that could be inspiring in other rural places.

Alalhesabi and Ghazzal in their research on pathology of villager attention to natural environment and conservation of environment in building houses, conclude that criteria of environment conservation take priority comparing to other criteria, especially applied ones.

Mehran in their research entitled “training of rural architecture, why? and how?”, addressing the trend of training in architectural schools, examines the place of this lesson in relation to other lessons and introduces new approaches to increase the quality and affectivity in the procedure of architectural training.

Introducing the history and status of villages in architectural training and examining the importance of villages in the system of residence, this article addresses the content of training and the ways of instruction in villages as well as lectures’ role and their viewpoints about the term of village. Focusing on property of contents and comprehensiveness of village lesson, this article concentrates on predictive and approaches to realization of the aims of instructing this lesson.

**Definition of historic Texture:** it is referred to as a part or parts of contemporary city which reflect (s) historical and cultural values of city and it has been attained during the history from interaction of human with his/her surrounding environment.

- **Definition of optimization:**

  - The plan of optimizing valuable texture of village with concise recognition of village present situation, analysis of information, following proper planning and then designing valuable paces of village is called optimization, so that this procedure can be used in physical development of village in future. Based on feature and potential of village valuable spaces, “the villages can be considered differently. However, they almost include general spaces of village, that is, the spaces, from which people are benefited such as entrances to villages, main squares and gathering places.

  - Examining studied region

    The village of "Mollade" is located in limits of "Semnan" city, district of "Mahdishar", in rural area of "Poshtkooh", on 53° and 25° of eastern Longitude, 38° and z° of northern Latitude, with height of 1780 m on northern "Semnan" province.

    Distant from city centre is about 76km, and from “Mehdishahr” is 60 km (Geographic organization of armed forces).
Village of “Mollade” is situated on the south of eastern slopes of "Alburz" mountains. It is surrounded by beautiful mountains. This village is limited to mountain of “Afrah” from north, river of safidrood and, "Darbundi" mountains from south, to mountain of "Bun Astane" from west and to the area of Tamamkooh from east.

**Temperature:** Average annual temperature in village of "Mollade", is 103 °C.

Monthly oscillations in Temperature are shown in figure 2 which shows, the month of August (mid – summer) is the hottest with 21 °C and month of “January” (midwinter) is the coldest month of year with 0.9 °C.

**RAIN FALL:**
Rain fall in this region is under influence of various factors in different seasons. In summer, adjacent – axis pressure affects the region. The rate of rainfall is small. With adjacent-axis high pressure systems moving over Iran toward lower Latitude (under 120 in north), low and high pressure currents are observed passing through mid latitude regions.

These incidents cause a lot of rainfall.

According to rainfall station, average rainfall in village of “Mollade” is 349.4 ml.

Figure 4 shows average Monthly rainfalls.

The Month of “August” (mid – summer) has the Least rate of rainfall, with a mean of 128 ml.

**GEOLOGIC CONDITION:**

- **The Main Faults, around the region include:**

  - Fault of “Surtala”, with length of 500m, stretching from west to east, is located in the south of village, its’ constituent is Lar – shemshak.
  
  - “Mandal chah”, with length of 1400 m , stretching from western north to eastern south, is located in south east of village, Its’ constituent is Lar–shemshak.
  
  - “Finsk”, with length of 5925 m, stretching from eastern – north to western – south, is located in eastern south of village and its’ constituent is Lar – Tizkooh-Ziarat.
  
  - Darbandi, with Length of 500m, stretching from western north to eastern south, is located in eastern south of village and its’ constituent is Anooseen Maren and Shei (consultant engineers of Sabz Andish payesh)

  Secondary faults of region are not active.

However, because this region is situated between two northern (Alborz) and southern (Semnan) faults, strong earthquakes are likely to happen.

**ATER RESOURCES:**

- **Surface water:**

  Safidrood River is streaming in the south of Mollade village. Safidrood fills into Caspian Sea. This river is a branch of Shirinrood which is flowing across eastern south of Sari- city and north of Semnan.
It originates from “Chingal” Mountain, with height of 3468m and “Nazwa” mountain with height of 3725, located 45 km away from semnan at western north part. It waters the rural areas of Haikboh, shale, Mollade, Tamam, Talajim, Finsk, Bandin, Chaharodabar, Gulbagh, zakaryakalu, Aaedabad and Roat, then fills into Shirinrood River.

VEGETATE COVERING
Passing from Mehdishar region to northern boundary, the effects of vegetate covering, which are protected from villagers intervention, manifest as trees of pine family, especially, cypress and barberry. In the regions with rich vegetate covering, predominant plant is of wheat spices.

In the region of Shahmirzad, self – growing plants are plentiful, including wormseed, goat’s thorn, and families of wheat, spearmint.

animal spices: since, this village is located under one of fourth regions of environment conservation organization, influenced by surrounding environment, it provides variable plant covering and valuable habitat for animals.

Based on studies, the most important animals in this region include, mammal’s:

brown bear, Tiger, goat, ram, ewe, wild goat and kinds of wild cats, boar, fox, Jacal, wolf, rabbit and birds.

- Background of studied region and village.

The village of Mohade is located on 60km and 76 km away from “Mehdishar” and “Semnan”, respectively. Mollade is composed of two words, namely de = village and Molla = knowingman. it was so named because of the presence of educated men with scientific and spiritual status in This village, including “Ayatullah Koohestani” and “Ayatullah Bakooe”. The establishment of this village goes back to 600-1000 years ago. However, based on historical texts and evidences and carried out explorations, it has been proved that concise and written history of its’ formation can be traced to 700 years ago, at the era of “Goorkanian”.

Social and economic properties:

- Demographic features (structure of population, age, gender, family dimention and migration)

According to the report by Iran’s census organization in 1976, the village of “Mollade” had a population of 153 persons belonging to 28 households. This number has decreased by 123 in 1985 (23 households) then by 66 persons and 25 households in 2006.

During this period - 1986-2006, family dimension was 3.4, 5.5 and 2.6 respectively. The following Table 1 shows the evolution of population during 1976 – 2006.

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Num. of families</th>
<th>Family dimension</th>
<th>rate or growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1355</td>
<td>153</td>
<td>28</td>
<td>5-4</td>
<td>--</td>
</tr>
<tr>
<td>1365</td>
<td>123</td>
<td>23</td>
<td>5-3</td>
<td>-2.16</td>
</tr>
<tr>
<td>1375</td>
<td>66</td>
<td>25</td>
<td>2-6</td>
<td>-6.04</td>
</tr>
</tbody>
</table>
Source: general census of population and house Based on classification of main age groups in 1385, 4 persons (6.06%) were in the group of 0-14 years old, 44 persons (66.6%) were in age group of 15-64 and 18 persons (27.26%) belonged to the group of above 65 years old.

JOB - CLASSIFICATION IN VILLAGE
Agriculture and gardening: According to the latest statistics provided by the ministry of agriculture and “jehad” (for construction) in 2004, the land under cultivation in “mollade” village covers an area about 15 hec, performed irrigation Method.

Animal husbandry: It is one of the main activities, village habitants perform. They often raise cow, goat and sheep (the goats are the least). According to received information from the center of agricultural “jehad “, in 2003.

The number of livestock is as follows: 41 heads of cow and calf, 96 heads of sheep and lamb and 44 head of goat and kid. It is worth to say that birds including cock and duck are raised to a limited extent.

- Handicraft:

From the past time, the villagers have had workshops in their houses for Making handicrafts. The women of village have been involved in making woolen cloth and, coarse carpet as well as in carpet weaving. Also they weaved cloth for making coat and woolen trousers locally called “chookha”. However, these activities have been declined remarkably. only few women of village continue to weave carpet or coarse carpet.

SPATIAL ORGANIZATION OF VILLAGE TEXTURE
Mollade is a small village located at the end of a route going from Shahmirzad to “Fooladmaahalle” separating toward west. This route ends up to a non-asphalted road with east - west direction, then after crossing the villages of “parwar’, ‘kolim”, “kaward”, “finsk”, “Talajim” and “Tem” arrives to “Mollade” which is followed by two small villages of “shali” and “Heikoo”. This region all together is called “postkooh”.

Mountainous region of Pastkhooh is located on the northern side of “Semnan” province whose main important structural and natural element is ‘Safidrood” river which is streaming across a long and wide valley in the middle of “Alborz” chain – Mountains. The villages of this region are situated on the slopes adjacent to the river. The mentioned route is located along the valley, parallel to the river of safidrood and passes through the villages. Condition and physical structure of all villages of “Poshtkooh” region, including “Mollade” are strongly under influence of ecological and natural conditions of region.

A key point in examining spatial organization of Mollade village texture is the location of village in southern boundary of Safidrood river, which from a lightening perspective seems totally improper. It is necessary to note that all villages situated beside the Mentioned route, lie on northern slopes of valley, toward south sun shining while Mollade lies toward north.

Maximum utilization from south sun light is one of the most important factors influencing the formation of spatial organization of texture.

But, considering the fact that Mollade village is located toward north, spatial organization of its texture can not be explained by this factor. Absolutely, the existence of water resources (several spring and “Safidrood” river) has been one of effective factors in formation of this village. Location of
village on the slope of valley which, with direction of north – south connects to eastern – western valley of Safidrood river, has formed the structure of village texture.

Of prominent buildings of village, Ibrahim khan’s palace (also called Mollade hunter field) can be mentioned which is located on eastern north of village at the locality of “in – war – Mahalleh. Detailed information about this construction will be provided in the section of introducing touristic attractions of the present report. Buildings and elements of public services are scattered in different parts of village and their architecture is different from native architecture. Cooperative firm, school, general bath, and “Hosainye” are located in the middle of village while Tele-communicational office, water reservoir and T.V. installations are located in northern side of village.

- New and old Textures and physical development trend in village

In examining the trend of formation and development of village, in addition to what was said about Jurisdictional organization and the influence of security and strategic factors on village formation, it can be added that early canon of village was on eastern part of village, beside “safidrood” where presently , Imam zade Bibl Tayebe (shrine) bath , spring and cemetery are located.

This collection has gradually expanded to northern part, which lies on the east of village middle valley, along the slope up ward and has form the locality of “on – war – Mahalleh”, while western side of middle valley is called “In – war – Mahalleh”.

Generally, “on – war – Mahalleh” is older than “In – war – Mahalleh”. The most important building of ‘in – war – Mahalle” is “Ibrahim khan” palace (Mollade hunting ground). On southern part of this ground, is a ruined bath and also a ruined water mill on west.

Access to village is gained through a bridge which has been established on river, and forms one of main axis of internal texture with south - north orientation. This axis is parallel to the valley which separates two localities of village. Beside this axis, new constructions are being made more rapidly than other points.

- A appearance of village old texture

In village of Mollade, there is no place which can be introduced as new texture.

However, recently some reconstructions are made as isolated buildings in different points of texture which have been made by non – native technology and materials.

About recent constructions, the effect of financial facilities which are given as loan of rebuilding the villagers’ houses can be mentioned. The building, Made by Means of these facilities are mostly made of bricks. (Pictures).

Assigning the ground floor of residential buildings to commercial purposes is one feature of newly – made houses. Governmental building including medical house (center) call office and forestry as well as public buildings such as mosque, bath house and village council have been made by means of non – native material and technology.

With respect to the pattern of Architecture of Village building, the first attracting thing is gable roof with metal covering. It is worthy to note that the roof of old building in the native pattern of architecture is plain, consisting of woody posts and a special covering with a mixture of thorns, desert plants and mud.
The buildings are often single storey. Considerable point in architecture of old residential buildings is that the internal spaces are not sub – set of single uniform space. General space of a residential unit is made by adjoining of some spaces such as living room, yard, warehouse, stable, oven place (kitchen) and services. However, each space is relatively independent. This independence can be observed in general volume of set and entrances. In some cases, a house has different entrances from out sides into mentioned spaces.

These characteristics can be less observed in relatively new residential buildings, which are single and uniform set. New houses have gable roofs. Veranda plays an important role in building’s composition.

The walls of old houses were made of stone and mud, while new house are made with bricks and mortar of cement

- Classification of Measure, programmers and proposed plans

In organizing valuable texture of Mollade, all needed measures, plans and programmed are determined, classified and prioritized.

In determining these needs, some factors have been effective including use of experience, technical and scientific resources, interviews with people and local authorities, examinations and Field studies.

- proposed programmed, plans and measures were classified into following four groups:
  - Cultural - environmental / Touristic
  - Executive (repairing, restoring and equipping) - reconstructive
  - proposed cultural plans, programmers and measures: In this group, a set of measures which can be performed with effective participation of people, groups and local foundations and lead to establishment of participation, are proposed plans, including:
    A) establishment of a center for cultural heritage and tourism in village of Mollade.
    B) Identification, registration and research in valuable buildings and texture of Mollade
    C) Establishment of society of lovers of heritage culture and tourism;
    D) Establishment of society of supporting environment;
    E) Advertising, informing and introducing;
  - Environmental – Touristic proposed plans, programmers and measures

    In this field, the following measures are proposed which can be classified timely, be prioritized regarding the importance and affectivity, and be ranked regarding the amount of demanded credit or rate of private and public participation. Effective organizations in taking these measures are organization of cultural heritage and tourism, organization of environmental conservation, constructional assistance of governor ad Islamic city council, by participation of which the Following measures can be taken:

    F) Optimization of the environment of flood – ways;
    G) Establishment of perspective stations;
    H) Creation of staying / receipting places;
I) garden of entertainment and museum;
J) Creation of touristic services;

- **Executive plan (repairing, restoring and equipping):**

Optimization of pass – ways and bodies of texture is another measure which seems necessary in organizing valuable texture of “Mollade”. The passing ways are covered by mud during winter and fall. These ways should be paved with local stones and some channels should be assigned to surface water streaming.

Mollade possesses cultural artist and historical valuable buildings and spaces by repairing and restoring of which, potential of village can be increased for receipting the tourists and travelers.

Valuable buildings and spaces of Mollade village whose application can be changed include:

K – repairing and restoring valuable house of Ebrahim khan brother is proposed as the head quarter of foundation of cultural heritage and tourism;

M – repairing and reconstructing Mollade building and Imamzade Bibi Tayebe for visiting by tourists, in addition to organizing religious and ceremonial spaces:

P – optimization of Medical centre and equipping it for giving services to tourists;

- **Constructional plan, programmer and Measures:**

These involve equipment and establishment which are under supervising by governor constructive assistance, organization of municipalities and governorates of rural districts, Islamic republic Housing Foundation and organization of Cultural Heritage and Tourism.

In this ground, following measures are proposed:

**Q – To pave the passing – ways:**

R- To organize the flood – ways and to clean them;

S – Establishment of station for hunting and mountaineering;

T- Establishment of parking and bus station;

U- Establishment of general facilities and services;

V – Reformation of infrastructural establishments

- The manner and stages of public participation: it is generally attained in four stages, as follows:

I – informing, trust – making and aware;

In this stage, people’s confidence in public foundations and the results of the plans. Informing people increases their confidence and trust, hence their participation. Following Measures can be taken:

- Identification of the values of texture (physical, social and environmental)

- Necessity and advantages of people participation;
- Instructing the regulations
- explaining the plans and looking for their opinions to make the plan more executive and performable and identification of resources.

Table (2) The Manner and stages of people participation

a) Informing and trust Making)

| - identification of values of texture  
| (physical, social and environmental)  
| - necessity and advantages of people participation  
| - necessity of tourism development and its advantages  
| - instructing the regulations:  
| - explanation of plans, programmers, and looking for their opinions and identification of resources  

b) Establishment and foundations

| - Society of lovers of cultural heritage and tourism;  
| - society for supporting environment;  
| - village Islamic council;  
| - youths, educated people;  

c) Performance (mutual participation)

| - awarding and punishing regulations  
| - attraction of investment  
| - technical and conductive assistance  
| - gratuitous help  
| - loan  

d) Self – organizing (supervision and guidance)

| - Financial (Financial help)  
| - mental (providing experiences and proposals)  
| - investing (investment in contractive)  
| - physical (giving land and house)  
| - Technical (Technical statements by architecture, builders, respectable persons and
authorities of village)
- humane (providing human force and cooperation in performing the projects):

e) Axis of participation
- repairing and restoring the texture
  - tourism
  - environmental optimization
  - optimization of construction
  - change of application
  - establishment of non–governmental found actions
  - social security;

Extracted from the plan of optimizing Abyane village

BASIC APPROACHES TO INFORMING, ADVERTISING AND INSTRUCTING
One of factors which plays prominent role in success of a foundation is the amount and quality of people awareness of plans, objectives, and executive methods and so on – so, it becomes very important.

At First step, this duty is on the shoulder of organizations, foundations and departments which are in relation with the center, including municipality, city Islamic council, organization of housing and city– planning, organization of environmental conservation and related non–governmental foundations.

Strength points:
- Natural environment;
- Being a summer quarter;
- Locating in “Safidrood” valley; within various heights in south of Alborz eastern slopes;
- existence of heights and mountain around village: such as “sartala, Afra and Bun Astane” mountains;
- Wind blowing
- Locating C7 of Mollade village on border;
- “parwar” conservation zone, existence of three conservational regions such as “Bola”, and “Dodange” wild life zone;
- existence of different ecologies of forest, Mountain and desert;
- Various plant covering with a combination of forests, and land covered by bush, shrub and meadow
- rich water resources like spring of Mollade and Safidrood river
WEAKNESS POINTS
- Existence of different faults around Mollade like faults of “sartala”, “Mandal chal”, “Darbandi” and finks as well as Mollade fault
- Potential earth quacks in the region;
- Uprising of Safidrood river in spring and streaming water in rainy seasons from heights and flood happening:
- Lake of the system of rubbish disposal
- Collection of livestock waste matters in the home and using them as fertilizer, and resulted contamination;
- Throwing, away the rubbish beside the river;
and its’ conveyance along with stream;
- Flowing of residential waste water through alley, and pass-way
- Cutting the bushes and use of them as fuel
- Cutting forest plants;

OPPORTUNITIES
- Preparing and implementing an effective plan for management of collection of rubbish, dirt and waste water
- Closeness to big cities and possibility of attracting internal tourists through short – Term tours

CONCLUSION
Based on observations and studies on mentioned village, in a general approach, compiling a desirable pattern in valuable texture of village should be permanent in literature of repairing so that it leads to optimization of living quality and physical – cultural structure of village as well as to maintains of historical values, and also it results in just distribution of infrastructural services and welfare facilities for villagers and tourists.

- Providing proposals, planning and priority of plan.

What was examined in the Field of recognition level studies, led to proposals which can be considered, based on explicit and implicit potentials of social, politic, economic, environmental and physical domains:

- Control of environmental damages;
- Improvement of road and correction of internal slopes of texture, especially in main axis;
- Restoring valuable elements and constituents which are ruining;
- Organizing and improving physical structure of the texture;
• paying attention to lanes in gardens and natural bed of river;
• control of damages resulted from crowd of visitors;
• optimizing staying places and places of religious ceremonies;
• appropriate and necessary service providing for different communities;
• Correct guidance of people in better maintenance of their social-cultural values;
• Creation of managerial coordination with relevant policy – makers to make a proper space for presenting village native culture;
• Holding exhibitions for presenting village native values and culture in the house adjacent to palace;
• Repairing and equipping the construction of “Mollade” palace for guests’ reception and staying;
• Proper use of advertising instruments (film, pictures, environmental graphics) for introduction purposes and guidance of visitors,
• Preventing from damages on cultivated products and gardens due to floods and travelers – Made pollutions;
• establishment of Mineral water plant with respect to region environmental conditions;
• optimizing hand – made products such as “Lawashak” (a dried, flat fruit with sour and sweet taste) and local plum, as well as packing industry;
• Restoration of some forgotten economic values like handicrafts
• job creation in the field of culture and higher education because of existence of educated people out of village;
• possibility of creating transport services for visitors and tourist welfare and transport of products:
• job creation in the field of tourism industry according to planned existed potentials.

Providing an Approach

With respect to mentioned issues, and different fields of study for restoring village valuable texture, some measure should be taken:

Firstly, directly addressing valuable limits body and presenting plans of optimizing, repairing, and maintaining, which need coordination between executive organizations such as organization for cultural heritage, housing foundation of Islamic republic, “Mehdishar” city governors and other related departments and organizations.

Secondly, indirectly addressing the valuable body through utilizing the potentials and possibilities of remaining texture in the limits of village body for delivering services and decreasing the damages on valuable limits;
Thirdly, paying attention to potentials in and out the texture limits in order to lighten traffic burden and to direct the visitors for maintaining the texture and preventing from damages due to rushing of visitors into village.

Fourthly, presenting a proper plan for restoring the texture with respect to different kinds of visitors and need of valuable texture to attention and utilization of possibilities presentable by visitors.

Problems in implementing the plan in implementing the plans of texture optimization in country, many problems arise, including:

- Lack of social beliefs in implementing the plan;
- Lake of credits by the government;
- Lake of coordination between local executive organizations;
- Lake of proper possibilities for executive factors;
- Lake of sufficient familiarity in village residents;
- Distraction due to floods, and Muddy passing – ways and problem in transport.

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EVALUATION OF PROGRESSIVE COLLAPSE SCENARIO IN STEEL FRAMED STRUCTURES WITH KNEE BRACE UNDER GRAVITY AND SEISMIC LOAD

Ali Parvari
Department of Civil Engineering, Faculty of Engineering, Khomein Branch, Islamic Azad University, Khomein, Iran

Amir Hossein Saadatmand Bahri
Master of Science in Structural Engineering, Khomein Branch, Islamic Azad University, Khomein, Iran

ABSTRACT
Using different technologies to bear lateral load has become so common and pervasive today. Braces in metal structures are used in different ways and with various mechanisms. One of the braces types is knee brace. By its mechanism, this kind of brace could reduce the structural damage caused by lateral load. One of damages that now threatens buildings is progressive collapse during earthquake, explosion and fire. Progressive collapse is defined as spread of local failure from one member to another which ultimately results in collapse of the entire or a substantial portion of structure. The objective of this study is to investigate the progressive collapse scenario in steel structures with knee brace. After the initial design using PERFORM-3D software, three 4, 7 and 10 storey steel buildings with knee brace were modeled. Then nonlinear static and dynamic analysis was performed and in the end potential progressive collapse was evaluated. The results evaluated the effect of push down curve, roof displacement and base shear.

Keywords: progressive collapse, KBF bracing, seismic load, nonlinear static analysis, nonlinear dynamic analysis

INTRODUCTION
Structural safety has always been a key tendency for designers of engineering projects. One of the mechanisms of structural failure that has drawn much attention in recent decades is the progressive collapse. First, one or more structural member fails for some reason and any time load is redistributed it ruins other structural elements and building is progressively destroyed [1]. Generally, buildings are not designed considering loading conditions including gas explosions, bomb explosions, and collisions of vehicles, aircraft accidents, hurricanes, tornadoes and loads like these. So it is possible that when buildings are exposed to such unusual loads they would incurred by great damage. Buildings should be designed to limit localized failure by integrating structural members, improving energy and loads redistribution (through creation of alternative routes of load transfer) and withstand unusual loads [2]. Engineering community attention for the first time was attracted to this topic after destruction of part of the Ronan Point Building in London in 1960 and then following the 11 September attacks, several standardization committees started a new effort in order to improve standards of design methods against progressive collapse [3]. After the terrorist attacks especially after what happened in the World Trade Twin Towers, assessment of potential for progressive collapse in important structures became one of the research main topics. This phenomenon can also cause severe problems in structures designed based on current regulations, during horrible earthquakes and it could even lead to the destruction of the entire structure. In other words, any weaknesses in design or implementation of the structural elements may cause the phenomenon of progressive collapse during explosion or seismic loading. To prevent progressive collapse caused by unusual loads, Canadian national regulations have set some requirements
on designing the main elements, their connections and methods for making paths for transferring the loads. General Service Administration of America (GSA) [4] proposed a practical regulation to design buildings in order to reduce the potential of progressive collapse in federal buildings. America's Department of Defense (DOD) also presented a regulation set dedicated to some methods to design the existing DOD buildings [5].

In 2016, Wibowo and Lau offered a brief review on the phenomenon of progressive collapse in the structures. Methods and requirements of several standards to prevent progressive collapse were discussed. Constraints and advantages of analysis methods available to assess structures progressive collapse were summarized. The importance of the influence of seismic load on the structures progressive collapse behavior was also discussed. It was concluded that seismic progressive collapse of structures can be analyzed through modification of current methods [9].

Kapil Khandelwal and Sherif El-Tawil (2016) examined progressive collapse in steel braced frames designed based on seismic criteria. Two-dimensional models of ten floors of the popular braced frames including SCBF and EBF were used and then APM method was used to compare the resistance of these frames against progressive collapse. Simulations suggested that braced frames with EBF system designed for high seismic risk are less damaged by progressive collapse caused by gravity load than SCBF frames designed for moderate seismic risks. It was concluded that this is the sequence of EBF system better formability [7].

Hartanto Wibowo and Silvena Reshotkina (2016) used APM method to model progressive collapse in concrete bridges during earthquakes. Results illustrated the significant effect of progressive collapse on bridges' performance during earthquakes. Researchers also emphasized on the necessity of considering the mechanism of progressive collapse in evaluating the seismic performance of new structures and announced that this phenomenon can occur during an earthquake and is not limited to the gravity and explosion loads and that APM method can predict the behavior of progressive collapse in bridges [1].

In his master's thesis, Nielsen (2016) addressed different methods of calculating robustness which is an important indicator to determine if a structure is healthy against an initial local failure. In general, it was found that ductility and additional provisions against unpredicted vertical and horizontal loads increase human errors and that increase in the capacity of healthy structure makes it more robust [6].

Jinkoo Kim and Taewan Kim (2011) examined the resistant capacity of steel moment frames against progressive collapse. In this study, linear and nonlinear static and dynamic analysis methods are provided to compare according to the 2113GSA and 2115DOD regulations. After results of analysis are compared it was concluded that nonlinear dynamic analysis is an accurate tool to assess the potential of progressive collapse in building structures [10].

Jesse Karns and David Houghton (2015) evaluated potential of progressive collapse in steel frames with different connections. In this study, after nonlinear dynamic analysis of a 23-storey steel frame which had lost a critical column due to an unusual loading, the history of different eras and deformations obtained were applied to a finite element model (FEM) with full details on beam and column and a variety of beam-column connections. It became clear that the connection of side plate represent an appropriate behavior to withstand deformations created and deal with progressive collapse [11].

Jinkoo Kim and Dawoon An (2016) studied the effect of chain performance on the progressive collapse potential in steel moment frame buildings. Nonlinear dynamic and static analysis was performed in 3 and 6 storey models with and without brace using APM method proposed in 2113GSA regulation and then results were compared. When chain performance was included in nonlinear static analysis, the push-down curve obtained was placed above the curve without considering performance chain. Like spans and
additional braces, the chain effects reduced lateral movements however changes made in number of storeys did not have a significant impact on chain performance [20].

Khalid Jalal and Tamer Alsavy (2011) investigated the impact of different rehabilitation strategies on reduction of progressive collapse in steel frames designed for gravity load using APM proposed by GSA and DOD. Response of three-dimensional nonlinear dynamic analyses for structures with different number and length of span in 10-storey steel frames were compared with the situation where different columns are eliminated. It was found that type of loading affects on potential of progressive collapse so all column removing scenarios with loading based on DOD resulted in the destruction of building but no such thing happened for GSA-based loading. It was also revealed that increase in beams strength is much more effective than increasing the stiffness [30].

Structural systems function differently in progressive collapse scenario. Study of different structural systems helps us investigate their potential in prevention of progressive collapse. The knee brace is one of the modern structural systems. Because of its knee member which yields against seismic load, this system increases energy dissipation of the structure. In fact, the knee element functions as a key that turns into a damper as soon as yielding which results in energy dissipation of the structure. This article aimed to examine behavior of moment framed structural system with knee brace at risk of progressive collapse under gravity and seismic loads. To better understand the behavior of this type of structural system, knee braced frames will be evaluated along with concentrically braced frames.

MODELS
In this study, the progressive collapse was evaluated focusing on steel structures with moment frame lateral load resisting with medium ductility along with knee brace. Furthermore, in order to better understand this type of brace in the scenario of progressive collapse, the knee brace was measured along with concentrically braced frames (CBFs). Structures were designed specifically for earthquake zones with soil of type III according to Iran's 2111 standard. Storeys were all in the same height of 3 meters. All joints and bearings are assumed to be rigid and roof system is composed of polystyrene piles with one-way performance and loads are distributed on beams in a plaid form. Gravity loading is done in accordance with the sixth issue of Iran's national regulation. Dead load cause by the ceiling and interior partitions for storeys and roof was respectively 500 $\text{kN/m}^2$ and 600 $\text{kN/m}^2$. In addition, the live load exerted on the surface was equal to 200 $\text{kN/m}^2$ for storeys and 150 $\text{kN/m}^2$ for roof. Sections used in beams and columns are respectively of IPE and H wide flange plate types. Beam-column materials were chosen of 73ST steel with minimum yield stress $F_y = 2400 \text{MPa}$. To calculate the weight of each storey during an earthquake, the whole dead load along with 21% the live load were included. In this study, 4, 7 and 10-storey building models were used that represent short, medium and relatively long structures. Structural plan in all floors has similarly three five-meter spans in both longitudinal and transverse directions which is demonstrated in Figure 1. In all models, the middle spans of side frames are equipped with knee braces. After initial design, the side frame of structure with knee brace was chosen as the one that is to be used in order to investigate the progressive collapse scenario.

Figure 1. Floor plan
Specifications of sections of beams, columns, and knee elements are respectively represented in tables 1, 2 and 3. Moreover, the modeled structured is shown in Figure 2:

Table 1. Specifications of columns sections in 4, 7 and 10-storey structural models

<table>
<thead>
<tr>
<th>Structural model</th>
<th>Floors (storeys)</th>
<th>Columns sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-storey</td>
<td>1-2</td>
<td>H091</td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>H021</td>
</tr>
<tr>
<td>7-storey</td>
<td>1-3</td>
<td>H091</td>
</tr>
<tr>
<td></td>
<td>4-5</td>
<td>H041</td>
</tr>
<tr>
<td></td>
<td>6-7</td>
<td>H021</td>
</tr>
<tr>
<td>10-storey</td>
<td>1-4</td>
<td>H241</td>
</tr>
<tr>
<td></td>
<td>4-8</td>
<td>H011</td>
</tr>
<tr>
<td></td>
<td>8-10</td>
<td>H021</td>
</tr>
</tbody>
</table>

Table 2. Specifications of beams sections in 4, 7 and 10-storey structural models

<table>
<thead>
<tr>
<th>Structural model</th>
<th>Floors (storeys)</th>
<th>Beams sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-storey</td>
<td>1-4</td>
<td>IPE221</td>
</tr>
<tr>
<td>7-storey</td>
<td>1-4</td>
<td>IPE291</td>
</tr>
<tr>
<td>Structural model</td>
<td>Floors (storeys)</td>
<td>Knee element sections</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>4-storey</td>
<td>1</td>
<td>IPE011</td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>IPE021</td>
</tr>
<tr>
<td>7-storey</td>
<td>1-2</td>
<td>IPE221</td>
</tr>
<tr>
<td></td>
<td>3-4</td>
<td>IPE011</td>
</tr>
<tr>
<td></td>
<td>4-7</td>
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<tr>
<td>10-storey</td>
<td>1-4</td>
<td>IPE241</td>
</tr>
<tr>
<td></td>
<td>4-8</td>
<td>IPE011</td>
</tr>
<tr>
<td></td>
<td>8-10</td>
<td>IPE021</td>
</tr>
</tbody>
</table>

Table 3. Specs of knee elements sections

Figure 2. Structural models of a structure with knee brace

A) 10-storey, B) 7-storey, C) 4-storey
ANALYSIS METHOD
To assess the potential of progressive collapse, the alternate load path method was used. According to this method, one of the structural elements that is locally failed is eliminated and then the structure will be analyzed without having the injured member. After analysis, it is determined what impact the removal of the element has had on how loads are redistributed. In this study, the progressive collapse of structure is considered based on gravity and seismic loads. Techniques used to evaluate the potential of progressive collapse under gravity load and seismic load were respectively push down nonlinear static method and nonlinear dynamic. According to GSA regulations, after injured element is removed in nonlinear push down static analysis, gravity load on damaged span is multiplied by 2 (Figure 3) and then structure under gravity or lateral load is analyzed. So to measure the potential of progressive collapse on damaged span, the load combination (DL+1.25LL)2 and in other spans the DL+1.25LL combination are used. To assess the potential of progressive collapse under seismic load, the El Centro, Northridge and Loma earthquakes were used. All earthquakes were scaled to the maximum acceleration of g1.35. The specifications of these earthquakes are represented in Table 4.

Table 4. Earthquakes features

<table>
<thead>
<tr>
<th>No</th>
<th>Earthquake name</th>
<th>Distance from fault (km)</th>
<th>Station name</th>
<th>PGA (g) In x direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EL Centro (Imperial Valley)</td>
<td>43.6</td>
<td>Delta</td>
<td>0.238</td>
</tr>
</tbody>
</table>
To create local damage in the structures, the alternate load path method was used according to the GSA Regulation. According to this regulation, local damages caused by column removal should be imposed in a way that won’t injure the connections of the beam above that area so loads will be redistributed properly. In this paper, different failure modes were applied including eliminating the column alone and removal of both column and brace together. Different local failure modes here are shown in Table 5. An example of structures with local failure is represented in Figure 4.

Table 5. Different modes of local failure

<table>
<thead>
<tr>
<th>Representing phrase</th>
<th>Removing storey</th>
<th>Removing mode</th>
<th>Structural model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Damaged 1</td>
<td>Corner column</td>
<td>4-storey structure</td>
<td></td>
</tr>
<tr>
<td>Damaged 2</td>
<td>Middle column + brace</td>
<td>7-storey</td>
<td></td>
</tr>
<tr>
<td>Damaged 1</td>
<td>Corner column</td>
<td>7-storey</td>
<td></td>
</tr>
<tr>
<td>Damaged 2</td>
<td>Middle column + brace</td>
<td>10-storey</td>
<td></td>
</tr>
<tr>
<td>Damaged 1</td>
<td>Corner column</td>
<td>10-storey</td>
<td></td>
</tr>
<tr>
<td>Damaged 2</td>
<td>Middle column + brace</td>
<td>10-storey</td>
<td></td>
</tr>
</tbody>
</table>
Figure 4. An example of a local failure in the 10-storey structure

A) damaged 1 and B) damaged 2
RESULTS

Results of push down analysis
As explained before, push down static analysis was used to examine the potential of progressive collapse. Based on this analysis, gravity load is applied to structure step by step and the vertical displacement of the spot above the element eliminated is read each time. Finally, vertical displacement value of the spot above removed element is drawn based on gravity load factor on each step. The curve drawn is called structure push down curve. The higher the load factor calculated in a certain displacement is, the more resistant the structure will be against failure under gravity load. In other words, the higher the load factors is, the higher gravity load the structure needs to reach the displacement desired. Push down curve of 4, 7 and 10-storey structures for damaged-1 state is illustrated in Figure 5 and for damaged-2 state in Figure 9.

Figure 5. Push down curve of structures in damaged-1 state: A) 4-storey, B)7-storey, C) 10-storey
Push down curves of the structures for damaged-1 mode in two concentrically braced frame (CBF) and knee braced frame (KBF) are presented in Figure 5. Push down curve reflects structures capacity under gravity load. According to this figure, knee brace has shown a better performance in all structures. In fact, structures with knee brace under gravity load are more resistant than structures with concentrically braced frames. The knee member allows such structures to redistribute the loads more properly besides it lowers the displacement of structure under gravity load. The same process applies to the damaged-2 mode as well.

Figure 9. Push down curve of structures in damaged-2 state: A) 4-storey, B) 7-storey, C) 10-storey
In damaged-2 state like damaged-1 state, structure with knee brace has a greater capacity to withstand gravity load. A comparison of different failure modes and structural models indicates that knee elements increases the structure resistance against gravity load. As a matter of fact, when column is eliminated a traction force flow is created in the structure. Then the knee element strengthens structure's chain performance resulting in increased resistance and load redistribution.

**Results of seismic load in the progressive collapse scenario**

To evaluate the structures performance against seismic progressive collapse and determine the behavior of structures introduced under local failure, nonlinear dynamic analysis was used. In this regard, first the local failure was created in structures according to Table 5. Afterwards, damaged structures were exposed to seismic load caused by earthquakes mentioned in Table 4. In addition, the maximum possible drift value in the structure set was 0.1 so analysis will stop upon reaching the drift figure and the overall damage imposed will be calculated. The results of the analysis based on roof displacement parameters, maximum drift of storeys and the base shear were assessed. Figure 7 displays the results of seismic progressive collapse in four-storey structure with knee brace.

![Roof displacement curve of structures with knee brace under earthquakes](image)

**Figure 7.** Roof displacement curve of structures with knee brace under earthquakes A) Loma, B) Northridge, C) EL Centro
Based on this figure, roof displacement of damaged structures in all three earthquakes was higher than healthy structure. Column removal however did not affect much roof displacement of structures with damage-1 failure. In fact, elimination of corner column in structures with knee brace under seismic load had less impact on structures performance than when damage was imposed on the center of span. Besides, structures were unstable during two earthquakes Northridge and El Centro and damaged-2 state. The point is failure of both column and brace in the structure with knee brace causes its progressive collapse and overall damage. Figure 1 represents roof displacement curve in seven and ten-storey structures with knee brace.

Figure 1. Roof displacement curve of structures with knee brace under earthquakes A) 7-storey structure, Loma; B) 7-storey structure, Northridge; C) 7-storey structure, El Centro; D) 10-storey structure, Loma; E) 10-storey structure, Northridge; F) 10-storey, El Centro
As can be observed, the sensitivity of 7 and 10-storey structures to local damage is increased in a way that local failure in 10-storey structure has sharply increased roof displacement during various earthquakes and led to instability of damaged structure except for one case. In CBF structures, local failure in all models during earthquakes has increased roof displacement and made the structure instable like knee brace structures.

An example of roof displacement in 10-storey structure with concentrically braced frame under El Centro Earthquake is shown in Figure 6.

Figure 6. Roof displacement of 10-storey structure with concentrically braced frame under El Centro Earthquake

The base shear curve of structures under earthquakes mentioned is addressed below. The base shear curve of healthy and damaged 4-storey structures with knee brace is represented in Figure 10.
Figure 10. The base shear curve of 4-storey structures with knee brace A) 4-storey structure, Loma; B) 4-storey structure, Northridge; C) 4-storey structure, El Centro

(A)

(B)
The results show that base shear curve of damaged structures is less than that in healthy structures. Also, in all structures, the maximum base shear of healthy structure is less than damaged ones suggesting that shear capacity of damaged structures is less than healthy structure. These curves reflects the point that capacity reduction of structures with local damaged-2 failure was higher than structures with damaged-2 failure. Similarly in all 4, 7 and 10-storey models with damaged-2 state, the time history curve of base shear at time zero shows that the structure has the original shear. This specifies that after removal of column and load redistribution and rebalance, the structure is subject to residual base shear which affects structures behavior under dynamic load. The same process is going on in structures with CBF. The base shear curve of structures with CBF is presented in Figure 11. It is shown that removing the column element reduces structures base shear which is more noticeable in damaged-2 state.

Figure 11. Base shear curve of 4-storey structure with concentrically braced frame under earthquakes A) Loma, B) Northridge, C) El Centro
In the following part, maximum drift curve of structure in different floors is demonstrated. Figure 12 illustrates the maximum drift of floors in 4-storey structures with CBF and KBF. According to this figure, storey drift of different structures has increased under various failures. Drift specifies what storeys are damaged the most and which storeys are affected by local failure more than the others. Based on Figure 12-A), drift of storeys in structures with CBF under Northridge Earthquake has reached the brink of destruction on 2nd, 3rd and 4th floors which stipulates that local failure on the first floor of this structural model had the greatest impact on the structural failure on its upper floors. Also, under this earthquake, the knee brace structure has a better performance than the structure with concentrically braced frame.
Figure 12. Floors drift curve of 4-storey structure under earthquakes A) Northridge, B) Loma, C) El Centro
As you can see, local failure has also increased the drift of floors and damage levels of structure in other earthquakes too. These failures often cause damages in other floors and in some cases lead to general damages to the structures.

CONCLUSION
In this study, the behavior of steel structures with knee brace under gravity and seismic progressive collapse scenario was investigated. To this end, four, seven and ten-storey steel frames were designed and equipped with knee braces. To perform a better evaluation of knee braced frames behavior, some structures with concentrically braced frames (CBF) were also designed and analyzed. Results of push down analysis suggested that potential of progressive collapse under gravity load in knee braced frames has more capacity than of that in concentrically braced frames. According to the results of time history dynamic analysis, structures with KBF and CBF have great potential in the seismic progressive collapse scenario and local failure in these structures can results in their general destruction.

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CONSIDERATION OF CLIMATE IMPACT ON CONTEXTUAL ARCHITECTURE IN ARID REGIONS

Mehdi Mehrabi
University of Art and Architecture
Qeshm international Branch, Islamic Azad University

ABSTRACT
Nowadays, one of the significant discussions in the field of architecture is designing of buildings based on their context. This context can have several different aspects such as historical-physical, social-cultural and/or climatic contexts. Climatic contextualism considered as one of significant discussions in architecture contextualism which is also resulted to sustainable building. The purpose of this research is consideration of climate impact on contextualism architecture. For this aim, Iran special arid climate is selected because of special architecture and similar to this climate. The approach of research is analytical-descriptive and data collection is performed by desk research. In this research, after recognition and analysis of related concepts to contextualism and contextual architecture, we study Iran arid climate and consider architecture of its buildings which is conformed with context totally. The results show that vernacular architecture in Iran arid climate is designed based on climatic context of it from different aspects like typology of buildings, urban texture, kind of materials, their colors and the way of designing buildings details.

Keywords: conceptualism, contextual architecture, climate, arid climate

INTRODUCTION
A building doesn`t need to exact imitation of figure and form from adjacent buildings for coordination with context and improvement of visual integration of region. In fact, it should have certain and common basic features. Designing into context don`t mean necessarily uniformity. There is difference between visual variety which creates disorder and the variety in which we can see power. Both of disorder and uniformity are unpleasant. Evaluation of quality of context is one of the basic matters in contextualism that should be practiced (Brolin, 1980: 148-153).

Architecture in context is neither a neglect nor extremist innovation but it is powerful and eloquent visual communication with environment. A single building initially is considered as part of the whole. Creation of spaces and places which improve human life are the basis of the architects` job. Any building can be and should be beliefs and needs of special time and place in conversation and interaction with history. The value of each building depends on its environment. Existing spatial relations between building and environment are very important (Ghadiri, 2006, 13).

Uniformity and unity of components do not mean being together and liaising. Unity is achieved when the components of a plan are designed to attain certain purpose. Therefore, for proper understanding of a building and motivating human aesthetic, general understanding of it is necessary. And the condition of this unity and uniformity is liaising and coordinating of all forming components of an architecture plan like structure, architecture place etc. is necessary. In contextual architecture, the factors which bring unity for adjacent buildings are: skyline, distance among buildings, proportion of windows, prominences and indentations of building, doors and other elements, general form and figure of building, place and entrance interface way of building, materials kind, payment and texture of building, achieved shadow pattern from volume and decoration elements, building scale, architecture style and landscaping (Brolin, 1980: 148-153).

Using form patterns (historical-physical contextualism), behavioral patterns (social-cultural contextualism) and using climatic patterns (climatic contextualism) are three important aspects in contextual architecture. In this research, we study about climate particularly. For this aim, Iran arid climate is mentioned and its architectural features of buildings are considered. Climate is: explanation of atmospheric conditions that weather of certain region is determined by quality and evolution based on climatic meteorology culture.
Climate is always studied by architects and planners as a natural phenomenon. The purpose of climatology is exploration and determination of natural behavior of atmosphere and exploitation of it for human benefits. About all human activities for continuity of life cycle are affected totally by weather and climate directly and indirectly.

In the history of architecture and building construction, designers and even architects always try to respond weather conditions. Traditionally, climatic design had masterly and exact expression either in buildings located in mountainous cities that protected against wind and south or in the plan of traditional central yard homes that are designed to maintain night cold in arid climate. In this vernacular buildings and local styles, climate and weather are considered as basis of human life and activities that finally form and beauty of buildings are achieved from them and it is also called climatic designing of building. It includes series of principles in designing of monuments by architects and designers which can result to optimum designing of spaces for calmness of human and saving energy. Climatic designing is an approach for multilateral reduction of energy of a building. The designing of the building is the first defensive line against external climatic factors of building (Shams & KhodaKarami, 2010).

RESEARCH METHODOLOGY
The purpose of this research is consideration of climate impact on contextual architecture in arid regions. The approach is analytical-descriptive that used data in the research section of this project are achieved by desk research. Library data in this project are achieved by different approaches such as reference to magazines, books, research projects, maps and web search. In this section, we try to use the last available data related to studied subject. At first, concepts related to context and contextualism is introduced and then contextual architecture is presented. In the following, discussions about contextualism aspects are presented that is one of the most important of these aspects are climate aspect. According to this end, this research particularly considers arid climate of Iran. In the continuity of research, the characteristics of this climate are presented and its special architecture introduced. Finally, principles of designing and architecture of buildings are concluded according to context of arid climate.

THEORETICAL CONCEPTS OF THE RESEARCH:
context and contextualism:
Context means ordering of an area or region. Architect Elil Saarinen (1956) has wrote: always design something by considering it in larger context, a chair in a room, a room in a home, a home in an environment and an environment in the city plan. Adrian Forti (2000) declared that origins of context, contextual and contextualism concepts established in Milan in the middle of 1950s. probably Forti refers the first considerable presence of context expression in dictionary of architecture to notes of Cristopher Alexander about form synthesis in 1964. Its meaning is synonym of environment instead of concepts which were achieved till now (Cowan, 2005: 88).

Contextualism is the view that points to particular characteristics of a place and its use in contemporary designing, the effort to show visual desirable environment and necessity of attention to physical environment around architectural effect, it begins from building itself, site or land in which it is located and introduced in the level of neighborhood and in fact distance from single architecture and near to urban planning, it has urban concept basically and means coordination among adjacent buildings (Brolin, 2007). Contextualism is based on this principle that a phenomenon cannot be imagined separately and solitary from environment and phenomena are not exclusive to their forces, essence and internal features but they depend on their environment and collection. Each phenomenon affects its environment and also affected by it and they interact with each other.

In fact, entire universe is interrelated and each component is effective on whole and any change in component will lead to change in the entire universe (Ahmadi, 2009).

Generally, contextualism is coordination and compatibility with physical, climatic, historical and cultural-social contexts that according to it, contextual designer should be able to understand features of a place and take it as the part of his designing process (Touliaie, 2001). Designer and architect should understand context message and design bed. After that, he should design according to existing conditions and that designing
should be based on realistic approach about environment information and building should create correct and equal interaction with its site (Ahmadi, 2009).

**Contextual architecture:**
This architecture does not emphasis on either imitation or a barrier to innovation and creativity. Its message is necessity of attention to physical environment of architectural effect and shows that this attention can be a positive and improving factor for both architectural effect itself and context. Contextual architecture is an effort for showing power of creation of desirable visual environment in larger scale rather than architecture. In the view of Edmund Biken, in the renaissance architecture, this matter is observed properly and assures success of urban spaces and views of this era. Visual relations are not mysterious features that can be understood by professional specialists but it is simple and initial features. Windows proportions, the place of entrance door, decoration elements, style, materials and skyline are the features that create unity or lack of unity and uniformity of a street, district or region. Any place has integration of these elements and degree of freedom for creating variety in designing. A building does not need to imitate exactly the form and figure of adjacent buildings for having proportion with context and improvement of visual unity of region but it should have mutual and certain basic features (Hossein Pour et al. 2013).

Robert Venturi (1966) questioned philosophical and worldview principles of modern architecture in the book of complexity and contradiction in architecture. He rejected techno approach and instead claimed for paying attention to human features and a humanist architecture. he considered international style as the dismissed style and instead believed contextualism. It means that any building should be designed based on its physical, historical, social and cultural contexts and special conditions of that site and buildings. It can be considered as vernacular style (Ghobadian, 1937:111). The message of contextual architecture is necessity of attention to physical environment of architectural effect and it shows that this attention can be positive and improving factor for both architectural effect and context. Contextual architecture is an effort to show power of creating desirable visual environment in larger scale rather than architecture. Here, artistic architect can play significant role in attention to context by new creation in exiting urban space. This matter increases his responsibility about urban environment (C. Brolin, 2004:1).

**contextualism dimensions:**
In paper "contextual architecture", Kardan Zirak & Ashtari categorize contextualism as follows:

- Using form patterns (historical-physical contextualism)
- Using behavioral patterns (social-cultural contextualism)
- Using climatic patterns (climatic contextualism)

Of course, we can divide context to natural and urban contexts. For buildings in the nature, urban context lost its meaning and natural context is introduced. Natural context is soul, mood and environmental feature such as texture, color, kind topography and etc. also, this factors overlap with regionalism principles. For this reason, natural contextualism immediately integrates with regionalism and harmonizes with it. For natural contextualism, we can present good examples like Le Corbusier church and its attention to natural context or Vila Mayra by Aalto or Dipoli set by Pitilà (Karda Zirak & Ashtari, 2014: 19-20).

**Physical contextualism:** proximities, urban contexts (structuralism-old architecture)

Natural contextualism: coordination with nature etc. (Folding architecture- deconstruction and post structuralism).
Naser Ghanbari, in his research as "comparative consideration of contextualism approaches in architecture of cultural contemporary buildings of Iran and west, introduces another type of categorization.

1. Physical conceptualism

The elements like form and figure, scale, proportions, details of materials, texture, colors, geometry, accessibilities, directions, perspectives, topography of the place, vegetation, urban texture including amount of buildings density-streets and pavements and their relations, type of materials, integration of materials, integration of volumes and forms with each other, organization of spaces, adjacency of buildings with each other, linking of old and new buildings, skyline, line and type of connection to ground and many other similar matters (Ghanbari, 2014:23).

2. Historical contextualism

Historical architecture and urban planning evidence indicate that in past, architecture and urban planning is formed in proportion with environment. Traditional architecture is created with tendency to ecological and social stability with respect to natural resources and protection of it for future. Regarding indestructible forces such as sun and wind and using them for improving thermal conditions of environment were usual form ancient times (Ghanbari, 2014:23).

3. Climatic conceptualism:

Regarding climate and climatic factors in which we establish can be jumping stage for flying to stable architecture. Attention to this matter smoothest the rout for using natural forces like sun, wind, water etc. and minimizes use of fossil resources. So, attention to climatic forces of region such as climatic characteristics of any context of wind, rain, changes of temperature in day and night, temperature, sky condition, sun, radiation etc. are necessary (ghanbari, 2014:23-24).

4. Cultural contextualism:

Regarding cultural, environmental elements, traditions and origins, conventions and cultural religion in any context and applying them in designing of architecture and urban planning and also place of users of building can help to use building. Therefore, attention to cultural values in any context and use of them will result to cultural contextualism (http://fa.wikipedia.org [Accessed on 03/October 2014: 8 pm).

Types of contextualism:

Physical: elements such as form and figure, scale, proportions, details of materials, texture, colors, geometry, accessibilities etc.

Historical: attention to old architecture and urban planning in proportion with environment and achieving social and ecological stability

Climatic: attention to climatic factors of region like climatic features of any context of wind, rain, changes of temperature in day and night etc.

Cultural: attention to cultural values in any context and applying them

Chart 1: chart of types of contextualism and their components (source: Ghanbari 2014: 24)

Meryl Guinness (1980) also categorizes context in architecture as three general subjects of form, activity and climate that all of them discussed below (Ghanbari, 2014:36):

Contextualism in architecture-form patterns-climatic patterns-activity patterns

Chart 2: categorization chart of context in architecture based on Meryl Guinness (Source: Ghanbari, 2014:36)
1. Form patterns: here, form includes elements such as space, figure, scale and proportions of details of texture materials and colors. These elements can be used for relating architecture with its context in two geographical and time dimensions. Geographical dimension can be presented in three scales:

Connection of building with adjacent buildings in comprehensible and visible distance. Example of such connection with around context can be observed in urban views and new replacement in historical sites.

The next scale is when building connect not necessarily with environment but it connects with around site.

Third connection with site can be achieved in regional scale. In addition to visual and distance dimensions, building can connect with environment in time dimension (past, now and future). In center of Columbus, Peter Eisenman relates his geometry with a type of historical stratification from Site-Palimpsest to past of city although in these cases, understanding and exploring this relation with site is not obvious as previous cases.

2. Activity patterns: in the field of activities, circulation in site of building, individuals` behavior and groups are the factors that can relate building with its context.

3. Climatic patterns: climate shows its effect in materials, colors, pressure of volumes, forms and roofs etc. the art and sensitivity of architect, the amount of his understanding from physical and emotional-mental features of site or sense of place that is achieved only by presence and life in one place help architect to better understand and create this relation. This feature as a dark nature in site is explored by architect and interpreted. This nature converts site from its figure to something which it can be (Gaines, 1980). As we can observe in categorizations, attention to climate is one of the important factors in contextual architecture. in this research, arid climate in Iran is considered particularly that we will discussed below.

PRESENTATION OF FINDINGS AND THEIR ANALYSIS:

climatic divisions in Iran:

Principally, in many regions of the world, climate is determined by latitude and sea level. Iran is located in 25 and 40 degrees of northern latitude in hot region. Regarding height, it is elevated plateau that a total of its surfaces which their sea level is lower than 475 meters cover a little percentage of overall surface of the country. Despite Iran has two high water zones, (Caspian Sea and Persian Gulf), because of Zagros and Alborz range of mountains and their location, the impacts of these two zones is limited to their near regions and they seldom affect adjustment of temperature of internal sections. Undoubtedly, in mountainous country like Iran, two points never are similar. However, the best approach for achieving a base to determine climatic regions of state is Koppen principles that we should follow them inevitably. Therefore, quadruplet divisions of Iran that were introduced by Dr. Hassan Konji would not be used. He accepted Koppen classification by little changing with consideration of latitude complications of state as below (Pir Mohammadi, 2015):

1. Temperate and humid climate (southern beaches of Caspian Sea)
2. Cold climate (Western mountains)
3. Hot arid climate (central plateau)
4. Humid and hot climate (southern beaches)
5. Humid and temperate climate (southern beaches of Caspian Sea).

Iran arid and hot climate

Arid and hot climate exist in center of eastern areas of state generally. Its general characteristics are:

9. Arid and hot weather in summer and arid and cold in winter.
1. Little raining
8. Little humidity
4. Little vegetation
5. High difference of air degree in day and night
1. in desert areas and desert margin, winds with cloud.

Because of little humidity and distance from sea, the difference of temperature of day and night is high and because of little water for agriculture and also residents’ consumption and existence of high sand and soil, life is very hard. As there isn’t any tree and little wood, creation of roof is difficult. But compatibility with these weather conditions in different seasons is observed in Iran traditional architecture properly. The indexes which are considered for achieving desirable calmness in Iran traditional architecture especially in hot and arid climate are extraversion, introversion, and orientation, declining into soil, four seasons’ homes, using greenbelt, using proper materials, insulation and finally role of water in Iran traditional architecture (Zadeh Esmaiel & Torabi Langari, 2012:3).

In this climate, winter is so cold whereas summer is so hot. Therefore, building should be designed to encounter with both dilemmas. Undesirable blast with cloud form desert and/or arid areas is another dilemma in this region. Urban texture should be designed compactly and urban spaces and pavements closed in order to prevent thermal flung in winter and cloud wind. Fluctuation of thermal temperature during day is high in this region although its amount is fewer than elevated regions (Ghobadian, 2002).

Vernacular architecture of Iran in arid climate
Wind, rain, temperature, humidity and sun radiation are the factors which form perspectives and adjust people with climate historically. Human calmness and in some cases his survival depends on skill to which he creates buildings and spaces coinciding with climatic environments (Hough, 1993: 28).

Vernacular architecture shows irrefrangible relationship of human and nature by smoothing nature and using natural products (AlpaConovolo et al. 1986:60). Existing traditional homes in arid climate of Iran are one of obvious samples of coordination between human and nature. Climatic and unique features of arid regions cause formation of residences with special principles and development of smart theoretical techniques of duct and windy (Dehghan, 2003:66). Climatic calmness in these regions is provided by three ways: using shadow and wind, using water and reducing the effect of sun radiation (Golkar, 2001: 80). Also, climate is effective factor in formation of central yards in cities and vernacular and traditional architecture in arid climate. In this climate, because of presence of arid weather, sun radiation and special climatic conditions, cities have compact and compressed structure (Zare et al. 2012:53). This compactness protects influence of sunny radiations. Walls and roofs often considered thick in order to protect inner space from outer heat. Urban structure is designed as arteries were opened in desirable direction of wind and they were closed in undesirable direction of wind and sandstorm (Tavassoli, 1974). Compactness in the residential buildings converts to openness which is called central yards. Climatic impacts affected the process of formation of central yard by two factors: first, to create better climatic conditions, orientation of buildings was considerable. Second, buildings introverted to face climatic conditions (Zare et al. 2012:53). In introverted architecture, inner spaces did not have any relationship with urban spaces. Also, principally there isn’t any casement to alley or passage in this type of architecture and/or if there was any casement, it would be established on high height in order to remove direct view (Dilman et al, 1987).

Main structure of traditional houses of Iran arid regions was formed of brick and bat. Thermal features of brick and bat are the effective factors on housing calmness. Brick-shaped and earthen homes act as insulator with their thick walls (Dehghan, 2003:70). Of important matters in construction of native homes of Iran arid regions is orientation of homes (home-oriented). This orientation performed based on the way of sun radiation and blasts (Pirnia, 1992:155). Orientation of old homes, based on climate, created the situation in which summer spaces and winter rooms located around the yard logically. In fact, this orientation resulted to multi-functional inner spaces such as north parts spaces and south parts spaces and caused inner migration in home (Memarian, 1992:347). Therefore, one of special adjustments is formed in arid environments. Settlement of rooms around yard is that summery rooms are always back of the sun and away from hot sun of summer afternoons. Summery rooms, in their desirable figure, have following components: one hall or porch, one springhouse, one basement and one Panjdari which is the biggest room of summery part and is...
used as sitting room of family. Winter rooms which are called sunny located in opposite direction of summery parts. It means that they opened to south part of yard in order to possess more winter sun (Kheir Abadi, 1997, 55-57).

Yard with gardens and the pool in middle of them are another arrangement which is considered for reducing intensity of heat. The yard which has lower surface than street surface of the city, in addition to providing light for rooms, acts as modifier for temperature. In winter nights that residents slept on the roofs, cold air which was run on the smooth roof of home simply enters into yard. During the day, this freshness was maintained and radiated on the floor of yard and cooled the home (Castello, 1992:40). In the center of yard of vernacular homes, there was a pool which attracted the solar energy. Gardens with droughty trees, in addition to beauty, supplying shadow and playing role in beauty, compensate poverty of environment humidity. In other words, all building elements of traditional residences cooperate to provide little and livable climate for human (Mostofi Almamaleki et al. 1996:119).

In most of homes of arid regions, there is basement. Designing of basement was that through connection with windy, yard, pool and garden can provide calm and desirable environment for rest in the hot summer of region. The best type of basement is that its door opened to the north because it remains safe from intense radiation of the sun in addition to using mild winds of north (Dehghan, 2003:72). Most of old homes had high walls that provide shadow in summer season in addition to safety advantages and finally relative freshness of motion paths (Hedaiat, 1995:712). Windy is also another component of housing that plays beneficial role in providing proper environment in summer season by natural ventilation act. The orientation of desirable winds determined shape and orientation of windy. Windy takes dominant summery winds and directs them into hall, basement, springhouse etc. through channels. Beneficial usage of windy caused that this technique transferred to Persian Gulf countries in 19th century by Iranians (Bonine, 2001:51).

Generally, we can say that in this climate, plans are compressed and compact. Through this, outer surfaces of building minimize in comparison with its volume. Compactness and compression of plans and buildings minimize the amount of thermal interaction in winter and summer and caused that maximum shadow created on the surface. Most of opening surfaces and windows located to protected limitation of central yard which undergoes lower hard and drastic conditions of outer space of building. Type of used materials include high thermal usage and bright color and orientation is south to south-east (Saleh Pour et al. 2013).

Generally, it can be said that following items were observed in designing of buildings in Iran arid climate based on contextual architecture, particularly the climatic topic:

Construction of windy to direct wind into building
Construction of central yard and introvert architecture
Construction of garden hole
Buildings have compactness in plan to face sun radiation and settlement of fewer surfaces in front of sun
Construction of building to the south and south-east for optimum use of sun radiation energy in winter
Using high thermal resistance and thermal capacity materials such as whole and is components
High thickness of walls and use of bright color of materials to reflect sun light
Minimum number of openings in outer surfaces to pavements of humid and hot climate: high temperature and humidity, low raining, very hot and sultry summers, short and moderate winters, low difference of temperature during day and night are the characteristics of these regions. High heat and humidity, low raining, sultry and hot summers, minimum difference of temperature of day and low vegetation are the climatic feature of this region. In fact, it is linking circle of two introvert architecture of arid region and extrovert architecture of humid and moderate region since it has features of introvert architecture and extrovert architecture simultaneously (Kerdouni, 2010).

Table 1: Architectural characteristics in arid climate

<table>
<thead>
<tr>
<th>Characteristics</th>
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<tbody>
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Features of contextual architecture in arid climate

| Introversion home with yard because of maintain energy and compatible with climate | The main forming element of residential pieces of urban texture |
| Residential | Type of building |
| Introvert | Typology |

- Flat:
- Oddness and dome: their convex and spherical shape is suitable for radiating thermal radiation. During the day and at morning and afternoon, half of dome is in shadow of another half. this matter plays an important role in reducing temperature of roof. Dome roof encounters with wind because of its swellings. Therefore, thermal radiation has lower effect on it.

- Flat:
- Oddness and dome: their convex and spherical shape is suitable for radiating thermal radiation. During the day and at morning and afternoon, half of dome is in shadow of another half. this matter plays an important role in reducing temperature of roof. Dome roof encounters with wind because of its swellings. Therefore, thermal radiation has lower effect on it.

- Creation of maximum shadow for roof
- Reduction of thermal radiation
- Creation of private space on roofs
- Protection of roofs from desert winds

Shelter on the roof

- Brick materials for walls structures
- Beautiful integration of brick and wood
- Beautiful integration of brown and turquoise

Type of materials

- Brick materials for walls structures
- Beautiful integration of brick and wood
- Beautiful integration of brown and turquoise

Coordination with climate

- Compact and compressed texture

Nature element in yard

CONCLUSION
In this research, we consider the role of climate in contextual architecture in arid regions. At first, research concepts are introduced in relation to context and contextualism concepts. Then, contextual architecture is presented. In the following, topics of contextualism dimensions are introduced that one of this important dimensions of is climate dimension. In this research, we particularly discuss about climate in Iran arid climate and architecture of buildings of this climate are considered. The results show that Iranian architecture in this climate in the case of all physical different aspects like building typology, type of materials, color of materials and designing of single components is in full coordination with its context, particularly climatic context. at the end of research, all features of Iranian vernacular architecture features in arid climate are expressed.
INVESTIGATING THE STRATEGIES TO INCREASE SOCIAL INTERACTIONS WITH SOCIAL SUSTAINABILITY APPROACH (CASE STUDY: THE STREET OF CHAHAR BAGH IN ESFAHAN)

Shiva Mousavi  
M.A student in Architecture, School of Architecture and Urban Planning, Khorasegan branch, Islamic Azad University, Isfahan, Iran

Seyed Mohammad Rashtian  
Assistant Professor and Faculty Member of Khorasegan branch, Islamic Azad University, Isfahan, Iran

ABSTRACT
Public space is an opportunity to develop one's social dimensions in terms of social interaction and the experience of participation in collective life in cities. Urban public spaces as the third place that play a major role in social interaction, should be eligible for structural features and design criteria. Urban public spaces pave the way for collective and privacy identities that all residents can pay for social interaction in this area. They also provides places for dialogue and reflection and basic necessity in urban development plans. In other words, urban spaces are a part of the city that as public arena is the manifestation of urban activities. In the meantime, citizens as public activists and users of urban spaces interact in public spaces. This article by identifying variables affecting citizens' satisfaction with public spaces, has examined the indicators and criteria influencing it. It also by using a descriptive-analytic method and documentary study has investigated the definitions and concepts of urban public spaces and factors affecting the content and physical function at the Chahar Bagh Street at top of Esfahan as a influential urban public space and finally, provides tips from the perspective of local identity and convenient access to services for citizens in urban areas.

Keywords: urban spaces, social interactions, local identity, Chahar Bagh Street

INTRODUCTION
Many urban planning theorists believe that urban spaces as a key component of healthy city has a major role in urban planning and development. On the eve of the third millennium urban public spaces as third place (Carmona, & Heath, and Tysdl, 2003) that plays a major role in establishing social interaction has been considered seriously and has become the focus of knowledge – profession of urban design. Urban spaces are places that belong to all citizens and are not limited to the physical aspects and actually, they find meaning with human presence and activity (Kashaniijo, 2010). Jane Jacobs believes the presence of people in urban areas subsequently raises issues such as social safety and security. Reliance on public opinion in the design of urban space, creating spatial closeness and increased density, mixing and efficiency of space and organization, and the appropriate use are sustainable and qualitative aspects of public arena. Public space should be safely open to all classes, age groups and gender and social minorities at all hours of the day and at the same time facilitates the access and travel. The main function of public space is providing and strengthening the presence of the people therefore, its social and cultural dimensions have special place. Considering the presence of humans in urban spaces and creating human-oriented structures in the city has ancient history in urban history which has been one of the factors of the lively environment shaping throughout the history. Space and society are two inseparable elements in such a way that paying attention to one of them alone would be extremely difficult. People and space are actually a bilateral process and actually, people create and alter spaces and spaces influence people. Urban space is not only a physical concept but also it also covers the interactions between citizens and urban activities namely, it manifests the corpus of the city that is a place for urban activities or an area of social interaction. In other words, the main condition of the public spaces is that the social interaction and intercourse takes place over there (Rastbin, 2012).
Todays, in many cities of Iran public areas are often not responsive to human needs as a social being properly and people look only to urban areas as a way to pass. Spaces instead of being a place for the constant presence of people encourage them to go and this causes the experience of dealing with others, the sense of belonging to the community, face-to-face meetings, social interaction and the experience of seeing and being seen do not happen properly. Urban planners by considering the needs and desires of the people and through the available tools can provide an environment where the presence of people is highlighted.

BACKGROUND OF STUDY
Over the last 50 years, sustainability in urban areas is proposed as one of the topics discussed in urbanization during the twentieth century. One of the first scholars who have shown interest in the environmental issues in urban areas, is Serge Chermayeff. In his view, private car destructs the human life. He divided the areas of public life and private life into six categories: urban public spaces (urban parks, highways), semi-public urban spaces (municipal building, passenger terminal, parking), special public spaces, special private spaces (public gardens, warehouses), private family spaces, private spaces of person. He even offered rental bicycle for dense spaces within the cities. After the introduction of sustainable development approach in the early 1990s, different theorists focus on various aspects such as Graham Haughton and Colin Hunter who in the book "Sustainable Cities" emphasized on the constructive relations among buildings, open spaces and paths and in other words, on the integrity between the uni-foundation scale design and urban planning as the sustainability creating factor. Hook Barton in his book "Sustainable settlements" refers to the features that sustain human settlements and considers the existence of the open spaces network essential for pollution management, wildlife, energy, water, sewage and creating local green spaces. Richard Rogers is the other expert with a focus on sustainability that in his work entitled "Cities for a Small Planet" introduces public area as the factor of social disconcerting and mobility in cities. Because he believes that a sustainable city should have features such as justice, beauty, creativity, ecology, compactness and multi-centrality, diversity and ultimately, easy communication that information to be exchanged both in face to face and electronic mode (Carmona, & Tizol, 2007). In Table 1, the profile of the most important experts with sustainability and environmental considerations is displayed.

Table 1. Experts with sustainability and environmental considerations (Kashanijo, 2010).

<table>
<thead>
<tr>
<th>Row</th>
<th>Theorist</th>
<th>Year</th>
<th>Title of text / theory</th>
<th>Key Concepts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Serge Chermayeff</td>
<td>1964</td>
<td>Areas of public life and private life</td>
<td>Considering the factors threatening the human environment in cities</td>
</tr>
<tr>
<td>2</td>
<td>Graham Haughton and Colin Hunter</td>
<td>1994</td>
<td>Sustainable Cities</td>
<td>Constructive relations among the buildings, paths and open spaces</td>
</tr>
<tr>
<td>3</td>
<td>Hook Barton</td>
<td>1996</td>
<td>Sustained settlements: A guide for planners, designers and developers</td>
<td>Open space network to manage pollution and increase local green space</td>
</tr>
<tr>
<td>4</td>
<td>Richard Rogers</td>
<td>1997</td>
<td>Cities for a Small Planet</td>
<td>Public area of social disconcerting and mobility factor</td>
</tr>
</tbody>
</table>

RESEARCH METHODOLOGY
The research method is descriptive - analytical or depth and to conduct this study the documentary method, SWOT table, as well as field observations are used. In documentary and data collection stage books, publications, presentations results are used.
Urban Public Space

Urban public spaces have always been a physical context for social interaction of people. Although qualitative and quantitative characteristics of urban spaces have changed over time and due to several different factors, always citizens and other users of the city need such a spaces. Urban public space should be a place for social interaction and collective life. According to Mitchel public spaces have a mission to increase social capital in communities, in the context of social interactions and exchanges which can be the basis for development and formation of individual and social identity (Mitchel, 1996).

Urban space in general concept is the interaction between relationships and behaviors. It means that it in addition to being a location for the proximity of individual identity, in the urban life it is as the most important factor for authentication and affects human behaviors and relationships. Additionally, urban space as a public space is the location of the emergence and survival of thoughts and individual and social desires of human beings that is the most important center of shared perceptions of men and perhaps that's why it has important role in the development of human societies (Sadri, 2006). What is value in the knowledge of urban design for urban open space is the social and interactive role that this space plays in the social life of citizens. Urban spaces are a part of public and open spaces of cities that are the manifestation of the nature of social life where the citizens are present there. Urban space is a scene that collective life story open there. This space also is accessible for all people and they can work on it.

In this space there is the opportunity to break some social boundaries and to occur not pre-formulated encounters and people can mix together in a new social environment. This space should be managed by public organization in order to be in line with the public interest. Thus, the basic requirement for considering a public space as an urban space is that in which the social interaction takes place (Rafieian, Asgari, 2002).

In ancient Islamic city, the main form of leisure was sightseeing in the city. This sightseeing took place by attending in the city's public spaces. Markets, mosques, leaning, streets and squares during the Islamic Civilization were one of the ways to spend leisure time. The return to the nature has had a symbolic meaning and has also been a way to escape from the stresses of urban life and in the modern city it is still as one of the basic methods of "rest" as well. However, over time we have seen an increase in leisure spaces in the cities and citizens have less inclined to leave the city. In Iran in the early 20th century and the late Qajar era with the advent of the modern city, this issue emerged. National gardens, Zoo, cinemas, tea houses and parks in big cities demonstrated it. In recent decades with broad social and cultural changes that emerged, we have seen an increase in creating atmospheres for leisure (Pour Mousavi, 2001). Therefore, today planning to spend leisure time has close relation with urban planning, especially with land use planning because the spatial organizing and providing leisure facilities largely depends on the quantity and quality of urban spaces and their equipment (Mahdizadeh, 2006). Public space belongs to the public and the public gather in this space to interact, recreation, and leisure. The spaces include a wide range of public to private spaces. In other words, every activity and behavior has its own privacy and territory and mutually, every space has its own privacy as well. Needs whether material or psychological are satisfied depending on their properties in the private or public space. The spaces in our culture have their own hierarchy. Simply, urban spaces in terms of how to use them can be divided into three categories:

Private spaces: refer to that part of urban spaces that is owned and occupied or used privately by individuals. Spaces such as residential houses, courtyards and private gardens.

Semi-private / semi-public spaces: those spaces in the city that due to the limitation in their target and users are used by a particular group of people, spaces such as residential complexes and their areas, stadiums and exhibitions (Pakzad, 2007).

Public spaces is the manifestation of social relations, such spaces as new social mentality revealing area has particular importance in urban scale. Public spaces are the place for "seeing and being seen" people and are very important in the analysis of social life. In fact, urban spaces can change the type
and amount of social relations by changing the people's behavior patterns. Urban public space converts the city from the dried and artificial place to a place to live (Saraei, Roustaei, Ashnavi, 2012). Surely, the vitality of cities and their continued dynamism depends on how citizens attend in it. Public spaces provide an important part of the citizen's needs especially their leisure needs. Finally, spending leisure time in urban life regardless of public spaces is meaningless (Madaniipour, 2009). Therefore, before any planning for leisure the recognition of urban public spaces’ features makes us more closer to this matter, because spending leisure time as any individual and social activity requires physical environment that can satisfy mental and activity needs. In the meantime, urban qualified public spaces can meet many needs of leisure time, cities of Iran physically have similar features, in many of them. In most of them, the old structure of the city is crumbled with the development of the city and the most use of the cars, and the new structure of the city is developed with unbalanced growth in different areas (Pour Mohammadi, Sobhani, 2009). On the other hand, the imbalance in social aspects and collective centers of city is causing social problems that one of them is the lack of suitable space for leisure time for people, especially young people. Reviewing the social spaces and recommending strategies to promote the quality of available social spaces in the urban context can reduce the existing problems (Arablu, Dashti Shafiei, 2012). However, different areas of sports, recreation and operation in cities are created for people of different ages to spend leisure time, the public qualified spaces of city as a behavioral setting can meet many needs of leisure time.

The concept of behavioral setting can be used to analyze the relationship between urban spaces and leisure time. Behavioral or location – behavior – explains the dependency and coordination of both concepts of the location and activity.

PUBLIC SPACE DESIGN REQUIREMENTS
In order to benefit more from a physical environment, the physical environment should have the special meaning and physical characteristics. Regarding the urban public spaces and spending leisure time, it is expected that these spaces to be designed in a way that with specific requirements and features, provide the area for suitable function and presenting appropriate behaviors of spending leisure time in the physical environment. The current patterns in urban public spaces include leisure, sport, social interaction and so on. Hence, urban public spaces should have the condition for creating the behaviors. In other words, the urban public spaces should be designed in a way that to be compatible with the activities that have been done there. The following design requirements can be divided into three general groups:

DEVELOPING AND FACILITATING SOCIAL INTERACTIONS
The physical environment can be considered as an important component in human interaction with others. Human as an organized, dynamic and prone to learning system is able to correct the behavior in dealing with the environmental changes. Social interaction depends on the individual’s social role and his relations in the group. Every social interaction has a condition and occurs in the specific place and time period. Therefore, the social interaction is limited to the spatial and temporal divisions. Some of these roles takes place with face-to-face relation and in larger groups, with speaking, appearance and condition of the body. In any case, its location and characteristic is an important issue in the process of social interaction. In general, proximity, homogeneity, density, success and purpose are the primary factors that shape the interaction among people and can lead to the cooperation and competition (Falahat, Kalami, 2008). Patterns of social interaction and functionality of the built environment are important because there is a close relationship between the social interaction and dependency of people to the made social and public environment. Another important environmental factor affecting social interaction is the number of people to contact in a finite spatial area.

Altman believes that the good social contact rate of people differs in different states and even at different times of day and individuals mostly use the privacy monitoring mechanisms such as manipulating their physical environment and keep their social contacts at desired level. Urban public spaces also play an important role in providing social need, interact of people with each other and development of personal and social relationships. Given that the interactions and social relations increase in urban spaces and leisure, it is better the physical environment to be designed in a way that can provide the groundwork for the development of social interactions of people at the leisure time.
Thus, public urban spaces with specific physical characteristics can have the capability to meet the social needs of individuals and with the right conditions facilitate the suitable conditions of incidence of social relations (Khademolhosseini, Safikhani, 2011).

CREATING A SENSE OF SECURITY AND PSYCHOLOGICAL AND PHYSICAL COMFORT
One of the conditions necessary for urban public spaces for optimal performance and facilitating the appropriate behaviors presentation in leisure time is the existence of physical and psychological security and comfort and using this feature by users of public space so that the public space by having these conditions in different psychological levels suppliers specific behaviors in individual and will provide the homology of behavior and environment. Since the incidence of any behavior of any person is the result of his thoughts and mental and emotional issues thus, with a sense of security by a person in an urban space as a behavioral setting, the possibility of the incidence of positive behaviors and activities along with relaxation and enjoyment is expected of a person. By the nature of leisure activities, these activities are optional therefore, their occurrence primarily need physical and psychological comfort. Accordingly, in the design of public spaces for leisure time particular attention should be paid to this important matter and the assistance of all users should be provided according to their physical and psychological circumstances as much as possible so that generally by creating the right conditions the proper use and comfort were achieved. To achieve this issue, the public urban spaces should be coincident with human’s physical and psychological needs (Falahat, Kalami, 2008).

CREATING A SENSE OF ENJOYMENT, SATISFACTION AND BELONGING
Design quality of urban public spaces as a behavioral base for leisure plays an important role in the satisfaction of people. How to spend leisure time differs based on the views, expectations and choice of people. But what seems to be common in most people is paying attention to the pleasure and benefit of these times. A sense of enjoyment will occur when a person reaches to the relative limit of physical and mental basis and to be free from beneficial issues. Thus, considering this factor is essential in urban public spaces for leisure time and this can not be achieved unless by designing spaces according to the social status and age of people and based on the interests, needs and current activities of people and creating the homology between urban public spaces (physical environment) and human behaviors. In other words, in these spaces consistent relationship is created between the behavior of people and place (Falahat, Kalami, 2008).

CASE STUDY
The approximate date of Chahar Bagh Street construction returns to the year 1000 AH (1591 AD). The street was originally constructed as a recreational street that in addition to social status has had governmental functions such as reading the instructions and orders of government. In Figure 1 the map of area of Chahar Bagh and Naghshe Jahan Square and the old context of Isfahan city can be seen.
THE QUALITY OF URBAN PUBLIC SPACE

Quality is a vague term that each of theorists has presented different definitions, for example Schoomaker defines the quality of life as "satisfaction of everyone with life" (Schoenburn, 2002) or cutter knows the quality of life as "an individual's happiness or satisfaction with life and the environment" which including the needs and desires, aspirations and preference of lifestyle and other tangible and intangible factors that totally determine the well-being. But Marans has more precise definition, He argues that the spatial quality like public open space is a subjective phenomenon that everyone has a different perception of that space. Many studies show that urban open space depends on various aspects of quality of life such as physical and mental health, social interaction, and the crime rate, and economic value of the property. When the quality of urban space will be upgraded we can see the increase of individuals' presence in space and this leads to the creation of location sense in citizens and space monitoring which ultimately will lead to the sustainability of urban space.

CRITERIA FOR THE QUALITY OF URBAN PUBLIC SPACE

Matthew Carmona in his book entitled "Public places - Urban Spaces" in 2003, divides criteria of the quality of urban space into seven sections that are compiled in Table 2. After introducing them, criteria of the quality of urban spaces is studied in the case study.

Table 2. Matching sub-criteria for the quality of urban public spaces (Carmona, & Tizol, 2007)

<table>
<thead>
<tr>
<th>Row</th>
<th>criteria of the quality of urban space</th>
<th>The study of quality criteria in top Chahar Bagh Avenue in Isfahan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>availability</td>
<td>This street is perpendicular to the axis of Zayanderud.</td>
</tr>
</tbody>
</table>

Figure 1. The map of area of Chahar Bagh and Nagnshe Jahan Square and the old context of Isfahan city (Aedalan, Bakhtiar, 2001)
Design and principles of making street or branching streets of Chahar Bagh Street is somehow that whatever the city becomes more widespread, is indirectly influenced by the historical axis. Now the street is one of the most crowded axis of the city.

Chahar Bagh Avenue is symbolic and indicator that its indicator element can not be simply separated. Chahar Bagh Mosque, Azadi Square, thirty-three bridges, Revolution Square, Imam Hussain (AS) Square and so on are considered as its key elements and indicator.

The existence of commercial axis in the body of Chaharbagh increased its bustle and traffic. Almost any time of the day, the street is not empty of people and vehicles that this issue in addition to the creation of traffic problems will lead to gradual destruction of historical monuments in this place.

This street has a relatively high security.

Due to the location of the mentioned street in the historic axis of Isfahan city and proximity to valuable sites, it has proper vision in places such as thirty-three bridges that causes to the recognition of pavement and street direction.

High human density, low residential density along with high commercial density are seen in the body of Chaharbagh.

Studied urban space is an inclusive space.

SOCIAL INTERACTIONS IN URBAN PUBLIC SPACES
An space is "urban space" in which "social interaction" occurs. Urban public space should be conducive to enhancing social relationships. For this purpose, paying attention to the human dimensions in today's cities has been considered more and this policy is very effective on improving social relations capacity in society and then in the region. Human being, regardless of race, age or status, is interested in creating social interaction in public space.

Urban space in general concept is the interaction between relationships and behaviors. Urban space as a public space is where the individual and social thoughts and desires of humans are emerged namely, is the most important center of human’s common perception and therefore, plays an important role in the development of human societies (Sadri, 2006). The communications between social interactions and stability in the public spaces of the city are analyzed in this way that the social interaction promotion increases the likelihood of the occurrence of events and collective memories that leads to the creation of location sense in space and consequently, sustainability of urban space.

CRITERIA FOR SOCIAL INTERACTIONS
Jan Gehl (1996) in his book entitle "Life among buildings" believes that by designing and with some regional, climatic and social limitations it is possible to influence the number of space users, the durability of practices and how to expand them in the environment. In his view outdoor activities in open public places can be divided into three categories which according to the Chahar Bagh Street of Isfahan city these criteria are set in Table 3.

Table 3. Matching sub-criteria of social interactions in urban space

<table>
<thead>
<tr>
<th>Row</th>
<th>Criteria of social interactions in urban space</th>
<th>Review of criteria of social interactions in top Chahar Bagh Street of Isfahan city</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Activities necessary (Activities that are more or less compulsory)</td>
<td>- A lot of people for the sole purpose of going to work every day pass Chahar Bagh Avenue.</td>
</tr>
</tbody>
</table>
and include daily activities such as traveling to work and school or shopping. Individuals in any circumstances have to carry out these activities.)

- For the trade body of the current Chaharbagh, everyday many people come to this urban space for shopping.
- Because of the many public transportation stations in the field of Azadi, Enghelab, Imam Hussein (AS) and Shohada people are forced to cross the street.

2 Optional Activities
(Dot not have a critical aspect and are done in the favorable conditions. Otherwise people do not see the requirements to do them, such as recreational activities)

- Having regard to the current function of Chahar Bagh Street, this space could lead to the formation of optional activities such as tourism.
- Because of cinemas in the body of the current Chaharbagh, everyday many people come to the urban space to watch the film.

3 Social activities
(Doing these activities is dependent on the presence of other people in space and performing them is not possible except in collective form.)

- Street Chaharbagh is one of the spaces where the social activities of citizens such as mourning and protests are done there.

ANATOMY OF URBAN PUBLIC SPACE
It can be possible to influence the activity pattern in urban public spaces through physical environment designing. Despite the regional, climatic and social limitations the number of events and people who use public space and the time of doing an activity can be increased (Gol, 2008).

Urban space as a field of diverse events occurrence contains elements, components and diverse information that the urban life speed and perception can be reduced by physical organization of the space where the possibility to benefit from the relaxation and comfort is provided there (Reza Zadeh, 2002) and this creates a sense of place and finally, leads to space stability.

PHYSICAL CRITERIA OF URBAN PUBLIC SPACE
Pakzad (2006) in his book entitled "theoretical foundation and urban design process" states the most important physical criteria of urban space in four cases that according to the case study these criteria are presented in Table 4.

Table 4. Matching physical sub-criteria of urban public space

<table>
<thead>
<tr>
<th>Row</th>
<th>Physical criteria of urban space</th>
<th>Review of physical criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Floor</td>
<td>- Mosaic is the main materials used in flooring of sidewalks of the streets, apart from the intersections. - Uniformity of flooring and lack of attention to the aggregate points, pause and ...so on.</td>
</tr>
<tr>
<td>2</td>
<td>Body</td>
<td>- The ratio of body height of street to the space between the street is almost 1 to 7. The width of the sidewalk of Chahar Bagh Street on average is 3 meters that due to the height of walls closeness is created to the walk space and also walls against atmospheric effects such as rain and wind provide adequate protection for pedestrians.</td>
</tr>
<tr>
<td>3</td>
<td>Roof</td>
<td>- Urban open spaces have no roof and and sky plays the ceiling role for these spaces.</td>
</tr>
<tr>
<td>4</td>
<td>Elements deployed in space</td>
<td>- Designed elements in the urban space, across the street Sheikh Bahai, have been in accordance with the city's history. - Suitable spatial distribution of urban furniture elements</td>
</tr>
</tbody>
</table>
With regard to the issues raised in this section, the relationship among the three pillars of quality of urban space, social interactions and anatomy of urban space, and the sustainability of urban space can be justified to the relationship that is shown in Figure 2.

**Figure 2.** The relationship among the three pillars of quality of urban space, social interactions and anatomy of urban space, and the sustainability of urban space.

Initially the integrated analysis of the status quo and review of the strengths and weaknesses - opportunities and threats about three axes including quality, social and physical interactions of urban space in Chahar Bagh Street are presented in Table 5.

**Table 5.** Integrated analysis of the status quo and assessing the strengths and weaknesses - opportunities and threats

<table>
<thead>
<tr>
<th>Threats</th>
<th>Opportunities</th>
<th>Weaknesses</th>
<th>Strengths</th>
<th>Quality of urban space</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1: The likelihood of occurrence of crime in the hours after midnight</td>
<td>O1: The possibility to maintain good views to bodies of indicator architecture such as the Dome of, Chahar Bagh school, because of the relatively low height of buildings to the street</td>
<td>W1: lack of definition and separation of specific routes, including the route of the disabled and veterans W2: lack of functional and spatial organization of temporary activities including the retail</td>
<td>S1: Locating in the historical center S2: proximity to the historical monuments such as the thirty-three bridges and ... S3: The existence of different applications to meet user’s requirements</td>
<td></td>
</tr>
</tbody>
</table>
CONCLUSION

Here, by analyzing the sustainability criteria in urban space, tips are provided for readout of Chahar Bagh Street which has tried to increase the stability of urban historical space by a comprehensive overview and based on the offered criteria and sub-criteria.

Table 6. Chahar Bagh Street readout Guide

<table>
<thead>
<tr>
<th>Chahar Bagh Street readout Guide</th>
<th>Sub-criteria</th>
<th>Sustainability criteria in urban space</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Building sidewalk in the streets of Chahar Bagh in Isfahan city and placing suitable vehicles for cargo to the market and shops lining the streets and ... - Observing principles and criteria of making appropriate the urban spaces for the disabled and</td>
<td>Accessability</td>
<td>Urban Space Quality</td>
</tr>
</tbody>
</table>

Social interactions

Body of space
| veterans | - Creating a dedicated path for bicycles.  
|         | - Allowing the emergency vehicles (police, ambulance, fire, transportation of money, etc.) to enter the street through a controlled one-way |  
|         | - Trying to create a soft spaces through the use of transparent and unobstructed view materials 
|         | - Ability to influence the field. 
|         | - Minimizing the hard spaces in order to understand the space better | Hard and soft space  
|         | - The creation of tourism attractive activities such as museums, cultural-recreational centers and servicing | Public space  
|         | - Notification in order to highlight the events and activities in city center 
|         | - Creating behavioral bases in accordance with urban space 
|         | - Creating the necessary spatial bed for the activities of vendor, theatrics, and so on 
|         | - The creation of necessary facilities for holding the periodic outdoor exhibitions, musical performances and street performances, ceremonies, cultural-religious gathering | Social activities  
|         | - The elimination of pedestrian movement barriers in space 
|         | - Short distance to public transport stations 
|         | - Single-level space | Effective body in social interactions  
|         | - To emphasize wall street milestones (such as cinema) to be implemented in reflect flooring and with different designs. | Floor  
|         | - Providing the program of the maintenance and cleaning of walls 
|         | - All elements or materials added in the foundation that are not compatible with the main body should be cleared and replaced with appropriate materials. 
|         | - All entrance doors and windows of shops should be replaced with suitable and new materials. 
|         | - Walls should be designed and implemented with conventional lighting monuments. 
|         | - All visible objects such as gas pipes, electricity and telecommunications cables, air conditioner channel, and so on should be cleaned and to be replaced in the right place with the right design. | Body  
|         | - Creating dense vegetation cover and in the volume form in the middle of the street 
|         | - Urban furniture in the proposal sidewalks’ space should be designed and implemented limited to street and to be coincide with the street building time period (in terms of appearance) such as benches, trash, basic lighting, billboards .... | Deployed elements in space  
|         | |
This paper proposed the urban space as a place of interaction and physical visualization of dialogue of various environmental components that the sustainable development and urban space can be based on it and with matching criteria in the Charbagh Street of Isfahan city it is concluded that all three factors of quality of urban space, social interaction in urban space as well as urban space skeleton play key role in the sustainability of space and in other words, responding to the needs of citizens through influencing the mental aspects of sustainability and creating a sense of place in the space.

REFERENCES
OLD VERSUS NEW: TECHNOLOGY AND NEW FORMS OF ARCHITECTURE

Shiva Pouryousef Khameneh¹²
¹Oxford Brookes School of Architecture, Department of Interior Architecture, Oxford Brookes University, Oxford, United Kingdom, England
²Interior Design Department, Pratt Institute, New York, United States of America

ABSTRACT
This research has been undertaken partly due to the literature review on this subject. Whilst it’s accurate to say that there is much contentious debate on the subject of digital modelling and its place in architecture in general, the debate has lessened somewhat in the last decade or so, and the volume of more technically-minded books on the subject suggest a subtle shift away from the original debate of the role of digital modelling on interior architecture, and more towards a tacit acceptance of its presence as a tool for creative invention. This paper seeks to qualify the influence that digital modelling has had on interior architecture, particularly in recent years since its widespread adoption. In particular, it seeks to investigate new forms of interior architecture and design trends that would otherwise not have been possible without digital modelling programs. In order to accomplish this, hypotheses will be formed out of the author’s personal experience and works, and a discussion and analysis relevant findings and arguments drawn from conclusions of other authors on the subject will be used to contextualise and frame the hypotheses to see if they stand up to scrutiny.

Keywords: digital modelling, architecture, form, technology

INTRODUCTION

“Is the proliferation of sophisticated tools for modeling, parametric design, and digital fabrication making the practice of sketching by hand obsolete?” -Joann Gonchar (2012)

With the exponential increase in processing power over a very short period of time, the possibilities of digital modelling have increased in much the same way. For instance, according to Mara (2010), new possibilities in digital modelling, such as building information modelling (BIM) and solid modelling, are enticing architectural firms around the world. Tasli and Sagun (2002) have previously written about such exciting possibilities; with regards to exteriors, an architect may be able to simulate the full life cycle of a building, building-user interactions, weather effects, and light sources. Mara (2010) writes that such information has been historically more relevant to ‘engineers and manufacturers’, but now architects can see the realtime effects of every line, every plane of their work. The ability to render light sources and shadows, and provide virtual walkthroughs of spaces, is of particular interest to interior designers. (Höhl, 2009)

However, even with this increased functionality, many architects and firms maintain that hand-drawn sketching remains a vital part of the creative process. According to Gonchar (2012), a Yale School of Architecture symposium in February 2012 asked the question ‘Is Drawing Dead?’ The responses were surprising. She writes:

“Finnish architect Juhani Pallasmaa, for instance, made the case for sketching as a tactile tool for discovery. While drawing, an architect isn’t focused on the individual lines he or she is creating, but is instead “occupying that space, as if touching all its surfaces,” said Pallasmaa. Such a kinesthetic connection is “difficult, if not impossible, to simulate with computers,” he said.”

In fact, the lecturer who organised the symposium, Victor Agran, did so not to pay some form of nostalgic homage to the art of hand-drawing, but to combat ‘a loss of visual literacy in academia’. The implication here is that digital modelling has hampered the creative process.

“Seen from the dawn of the twenty-first century, the use of computers in architectural design can be traced back at least three decades ago. What we see from the past is that many earlier predictions or expectations of how computers might fundamentally change the ways we design buildings, or more broadly, the built environments, did not come to fruition for various reasons.”

Sean Pickersgill of the University of South Australia is one of the only writers, certainly in recent years, to actually pick up on and note the impact that digital modelling has had on architecture as a whole. He writes (2010, p.336):

“There is little argument that the development of complex geometrical computing applications such as Autodesks’ Max and Maya, and latterly Bentley Systems’ Generative Components has brought about a sea change in the design and representation of architectural projects in recent years. These works, either in their digital or built format, constitute an emerging body of experience that exploits our familiarity with the virtual spatiality of these processes to create immersive experiences that to greater or lesser extent explore the narratival and ludological [sic] opportunities of these environments.”

According to Andrew Barrie (2010), the 20th century saw a move away from traditional methods of thinking of the relationship between a building’s exterior and its interior by separating the functions of the two – he argues that this is primarily due to the role played by Le Corbusier’s modernist movement in calling for novel changes to architectural function. Key among these is the relationship between a building’s exterior and its interior load supporting walls – before this movement, these were often integrated as the same thing, with the ‘exterior envelope’ functioning as a loadbearing system. In this approach, the interior design and function remained hidden and separate from the design and function of the exterior envelope. However, Le Corbusier’s modernism promoted a separation of these functions, moving load-bearing walls and columns further towards the inside of the building, and letting some of the peripheral interior space interact with the building’s exterior. However, he notes that since the turn of the century, this concept has dramatically fallen out of favour, giving particular examples in Japan of Toyo Ito and Kazuyo Sejima, saying, “Ito and Sejima are like the moderns in that they have made use of the new materials and methods of their time, but they have effectively reversed the Modernist innovations, re-integrating structure and envelope with the aim of creating new types of space.” (2010, p.40) He pins the genesis of this shift squarely on digital modelling; specifically, the structural analysis and innovation of materials afforded by new technology. He writes:

“New digital techniques for modelling and structural analysis allow the creation of structures whose performance was previously impossible to verify. Innovations in material technology and fabrication techniques (particularly digitally-controlled cutting and moulding) are making possible complex forms and structures that were previously prohibitively expensive or too technically demanding.” (2010, p.40)

However, central to his premise is that technology has not developed for its own sake – “the impetus behind these developments is not technological” – but is rather a response to the demands of architects to be able to realise new concepts of space. He also talks about the aforementioned belief that these technologies have reduced costs associated with labour and materials. Furthermore, he suggests that this breaking of the mould represents a desire to break from modernism’s grid-like rigidity and insert more complexity and individualism into their works, both interior and exterior. In this sense, he seems to be suggesting a feedback loop of sorts: digital technologies have informed new types of architectural ideas, which in turn have been the primary drive for the development of advances in that same digital technology, which in turn have allowed for even greater freedom to introduce complexity into new ideas, ad infinitum.
What we see from Peng, Barrie and Pickersgill seems at first like a contradiction: people in the past believed that CAD would fundamentally alter the way in which architects design, whereas Pickersgill, nine years later, writes that there is ‘no question’ that these technologies have brought about ‘sea change in the design and representation of architectural projects’. It seems, therefore, that at least one of these authors is either mistaken, or has misspoken. The real question here is whether or not these technologies have changed the way we design, or changed what we design. This dichotomy is not explicitly or implicitly addressed by any of the authors. However, the literature has already revealed stark contrasts of opinions: the way we design has no doubt changed, at least in part. Even if traditional hand-drawn representations of concepts and ideas of space persist, there would seem to be few architects today within any discipline or specialisation who would persist with hand-drawn and physical models throughout the entire design process. The merits of a mixed approach (for example, initial sketching and brainstorming carried out by hand, to be transferred to a digital medium to perfect and analyse the design) have been debated to some extent, and would seem to be a case of the architect’s personal preference, either due to a lack of computing skills, a force of habit, or having been in practice for much longer than most computers have, as well as whether or not the space being designed is exterior or interior in nature. It is the case, however, that nowadays the final drawing of a project is presented from a computer. To underscore this point, David Derine’s book Architectural Drawing (2010) gives architects advice on how to draw in a variety of different media – however, it openly states:

“CGIs vary in character and complexity but this technique is now used for the vast majority of contemporary architectural renderings. More often than not the final image is made by working in a number of different software packages. Invariably these programs support a formal imagination and are at their best when describing complex forms, structural detail and photorealistic lighting that would otherwise be difficult to represent […] the photorealism of CGI is something relatively new and, using a handful of software packages, this super-realistic render has become a global standard.” (2010, p.33)

As a result, it is often much easier simply to design the project in a digital medium to facilitate the creation of the final architectural render. Derine writes:

“It can also be useful to develop sketch models digitally that are more quickly ‘rendered’. In this sense SketchUp is a popular and useful tool. It is precise as well as being quick to use […] Within SketchUp itself are useful guides to scigraphy, material palettes and components; within Layout, orthogonal drawings can be quickly set up from the sketch model.” (2010, p.33)

Photoshop is also used to help add extra detail and tweak certain characteristics of architectural renders made from digital models. It almost seems self-evident, even to those who would have no background in architecture, that designing by hand and on a computer are two different things, just as writing by hand and word processing each have their own advantages and disadvantages. Nevertheless, the debate on whether or not these technologies have impacted what we design is less certain. However, those that do tackle the topic tend to argue for the same key points:

- It is faster (a point of debate depending on the age of the source; early writings from 20 to 30 years ago tend to disagree, more modern ones emphatically agree, though only give anecdotal evidence to support the assertion)

- It allows for more complexity in design

- It allows for a greater range of analytical tools of a design (life-cycle and interaction modelling, structural soundness which in turn allows for alterations to the design, weather modelling, developing excellent CG renders of a space for promotional material, etc.)

- It is cheaper both in labour and materials, which leads to a better use of those materials
Another subject not yet discussed is on the collective design process – most authors have written exclusively about architects as if they exist in their own bubble, being solely responsible for an entire project throughout its life. Peng (2001) charts the development of CAD, and what he calls the transition to Computer Supported Collaborative Design, whereby advances in information technology and networks have enabled a greater level of collaboration on projects. In addition, no authors address external influences on the adoption of digital modelling tools – for example, in many parts of the world, local planning authorities insist that all drawings and site plans submitted with a planning application are lodged online so that the authority can place the digital model of the proposed development within a large 3D map of the local area to check for things such as obstruction of light to other buildings and roads, and lines of sight.

Thus far, this paper has set out four hypotheses to be investigated based on personal work and experience; a comprehensive literature review has been carried out on the research question, and the results and arguments forming around certain concepts have been analysed and set out against those hypotheses in Chapter 4. The aim of this chapter is to provide resolution to the analysis, set against each hypothesis, as well as to briefly describe limitations to this research.

1: Digital modelling is no faster than drawing by hand
The analysis of the literature review seems to neither support nor reject this hypothesis. In fact, the most important point taken from the authors is that it depends entirely on what the architect hopes to achieve with digital modelling software. In other words, many authors outright rejected the idea that digital modelling is useful in the initial design phase of a project, with the most common argument being that it impedes the creative process in conceptualising new and different ways of approaching a task or project. However, Penz’s research showed that, when compared to hand drawing in the design and drafting of a project from start to finish, digital modelling was slightly slower (albeit on very dated technology). Because of this, I believe that this hypothesis is unique among the four in warranting further research, such as a replication of Penz’s experiment with more modern technology, and in an environment today where most architects of all specialisations regularly use and have a solid working knowledge drafting with computers.

2: Interior architects will continue to use a mix of media, and not exclusively use digital modelling throughout a project
The resounding consensus shown in the analysis of this hypothesis is that virtually all of the writers make this point, typically by stating that digital modelling has the potential to impede the brainstorming nature of the concept design process. One recommendation for future research would be a large survey of architects in practice throughout the world measuring exactly how much of their work (as represented by time) is actually done by hand, and how much by computer.

3: Digital modelling has created new styles and forms of interior and exterior space by being able to offer more tools to architects to realise more daring and technically challenging designs.
Only a few of the authors touched on this point, but those who did agreed. As discussed in the analysis, several questions beyond the analysis of the literature review were raised, such as the notion of the destruction of ideas, as well as the exact nature of the causation between digital modelling and new forms of space. However, the consensus formed around this topic indicates quite clearly that this hypothesis has been supported by the authors, and future research could be undertaken to establish the correlation between these two ideas, such as the survey recommended for 2.

4: Digital modelling offers cost benefits over traditional modelling methods
This hypothesis was also fully supported by the literature analysis. It also raised the question of exactly how the authors back up these assertions; Porter mentions Chrysler’s model development time reduction with the introduction of computer-controlled laser cutting. Future research could look into actual costs involved in the creation of projects, both past and present, to assemble concrete data. For
example, Penz’s test could be repeated, but with an added element monitoring for probable labour and materials costs.

LIMITATIONS OF THE RESEARCH
It was originally planned that this author would interview several practising architects to gauge their responses to a series of questions that were derived from the literature review. The intent was to add extra weight to the conclusions presented above. Due to the limits on the timescale of the research, and the fact that it was being written over December and January when most people are on annual leave, the architects who expressed an interest to take part were unable to complete the questionnaires in time. Though the underlying conclusions drawn from the literature review, most of which was written by architects in practice, would be unlikely to change, having the results of the interviews would have added additional primary data to the research.

REFERENCES
THE RELATIONSHIP BETWEEN ORGANIZATIONAL CULTURE AND KNOWLEDGE MANAGEMENT COMPONENTS OF LAWSON

Farah Shahraki Sanavi  
MA in Educational Management, Alzahra Eye Hospital, Zahedan Medical Sciences University

Fatematolsadat Robati  
PhD in Curriculum, Department of Management, Faculty of Literature and Human Sciences, Islamic Azad University of Kerman

Farideh Shahraki Sanavi  
Bachelor in Public Management, Authority and Jobs Office, Ports and Shipping Organization of Tehran

ABSTRACT
This study aimed to investigate the relationship between organizational culture and its relation with knowledge management. This is a correlational study and its statistical population consisted of all nurses working in hospitals of Zahedan Medical Sciences University. The sample size by using Morgan table was 250 persons that were selected by stratified random sampling method in proportion to population size within classes. The instrument used in this study was a questionnaire containing 60 questions of Denison organizational culture questionnaire (2000) with a reliability of 0.90 and 24 questions of questionnaire of Knowledge Management Lawson (2003) with reliability of 0.89. Information obtained by using descriptive and analytical statistics (Spearman correlation coefficient and linear regression) and SPSS15 software was analyzed. The study results showed that there is statistically significant relation (p<0.01) between organizational culture of studied individuals and all the knowledge management components. Also, the Linear regression analysis results showed that components of knowledge organizing and knowledge application were predictive of organizational culture in the model. Totally, KM initiatives were 26% predictor of organizational culture. According to the correlation between structural and cultural factors of organization and knowledge management as well as the role of knowledge in the quality of medical services provided by the centers, it is recommended to pay necessary and comprehensive attention to the structural and cultural dimensions of organization in the implementation of knowledge management in healthcare centers.

Keywords: knowledge management, organizational culture, Lawson, nurse

INTRODUCTION
Many experts consider today’s world as the era of discontinuity which means that the past experiences and solutions are not suitable for current issues and the future of organizations and we should think in a different way and look for new organizational solutions with the new structure (Nasrollahi). In recent years, various organizations and companies have begun to join the process of knowledge and new concepts such as knowledge work, knowledge of work, knowledge management and organization of knowledge inform about the intensification of this process. Draker by using this terminologies announces the creation of a new type of organization in which instead of arm strength, power of the mind is the rule. According to this theory, in the future societies can be expected to be developed and advanced that have more knowledge (Alvani). Although, corporate culture has a long history, it is an issue that is recently proposed in knowledge management especially in the realm of organizational development and organizational behavior (Shojaei, Zivaryar, Gholamalizadeh, Esmaeeli Bid Hendi, 2005). However, many published studies and articles point to the key influence of organizational culture on knowledge management or knowledge sharing effectiveness (Gold, Malhotra. Segars, 2001; Yeh, Lay, Ho, 2006). Organizational culture is a combination of values, beliefs, behavioral models and symbols. Organizational culture reflects the organization's value system and can be regarded as behavioral norms of employees.
Therefore, in general, organizational culture is a set and system of common understanding that members have towards the organization, and this feature led to the separation of two organizations. Culture not only determines the value of the knowledge and explains the advantage of knowledge creation for the organization (Park, Ribiere, Schulte, 2004), but also it influences the efforts of staff that take place with their satisfaction and desire to share knowledge. Then it should be said that organizational culture can be one of the factors in the success or failure of organizations in today's dynamic and changing environment (Shojaeie, Zivaryar, Gholamalizadeh, Esmaeeli Bid Hendi, 2005). Therefore, being able to create a culture in which the access to knowledge is easy for managers during the implementation of knowledge management is essential.

Davenport said that eight factors contribute to the success of knowledge management projects and a number of them were associated with the corporate culture. His research showed that even when an organization has a complete system of knowledge management, the lack of supportive organizational culture causes the performance of knowledge management to be limited in that organization and only in the case of existence of both knowledge management and organizational culture the work of organization will reach its maximum (Davenport, Grover, 2001). Alavi and Leidner (2001) in their study reached the conclusion that the success of knowledge management is closely related to culture. Therefore, from their perspective the success of knowledge management depends on culture, management and cooperation of different levels of organization (Alavi and Leidner, 2006). On the other hand, many researchers including Delong and Fahey (2000) in their research showed a high percentage of organizations that deal with knowledge management strategy and have not achieved their goal. They introduced organizational culture as the main obstacle in the creation and application of knowledge capitals. They also noted that knowledge rather than an asset is a process and in order to maximize its worth, an organization needs to create an environment which contributes the knowledge flow. They after experimental studies of this research also found that an organization for effective use of knowledge management should provide mutual trust culture for employees and maintain a level of confidence (Delong W. Fahey, 2000). The results of studies indicate the extent and importance of the role of culture in knowledge management, the impact of knowledge management success in support of culture, the necessity to identify suitable individual and organizational behaviors to the successful implementation of knowledge management, the direct role of organizational culture type in the successful dissemination of knowledge management systems and the possibility of increasing the effectiveness of the implementation of knowledge management in organizations due to the nature and characteristics of the organizational culture.

One of the most important aspects of any knowledge management system is the culture changing discussion therefore, the study of the relationship between organizational culture and its impact on the implementation of knowledge management is essential. On the other hand, it should be noted that different institutions and departments have different organizational cultures. Definitely, the culture of a private organization is different from the culture of public organization. Therefore, it is necessary to investigate this relationship in health care organizations such as hospitals because different cultures can influence various factors in organizations such as job satisfaction, people's creativity, production, sharing and application of knowledge management and so on. Thus, this study aimed to examine the relationship between knowledge management and its components with the corporate culture among employees of Zahedan Medical Sciences University and specify the relationship between these two indices. Since the major objectives of Zahedan Medical Sciences University are to create wide developments at the hospitals covered by this University. The results could pave the way for implementation and improvement of supper-oriented techniques and organizational improvement of hospitals and their performance. Also, managers by being aware of organizational culture of hospital can attempt to fix possible defects and prepare hospital for successful improvement and transformation.

MATERIALS AND METHODS

This is an applied (descriptive-survey) study that is done on the medical staff working in hospitals of Zahedan Medical Sciences University. According to the statistics department of Medical Sciences University of Zahedan in 2015 the total number of nurses employed in hospitals affiliated with this University were 688 subjects that based on Morgan table the sample size was 248 subjects that were selected by stratified simple sampling method in proportion to population size within classes in hospitals of Zahedan Medical Sciences University so that according to the total number of nurses working in each hospital, the sample size in each hospital was specified and ultimately 250 people were examined. Two questionnaires of Denison
Organizational Culture (2000) and Sharon Lawson knowledge management (2003) were used to collect data. The standard questionnaire of organizational culture made by Denison (2000) including indicators of participatory culture, stability-based culture, flexibility culture and mission culture investigated the dimensions of stability, flexibility, internal focus and external focus in the organization. The questionnaire includes 60 items that was valued with Likert 5 options (Numbers from 1 to 5). Its validity by using experts’ ideas and its reliability by using Cronbach's alpha (0.93) was calculated and verified. Also, knowledge management questionnaire of Sharon Lawson (2003) was used to examine the elements of creation, attrition, organizing, storage, dissemination and application of knowledge. Each component is made up of four items. Totally, the questionnaire consisted of 24 items that was measured with Likert scale of 5 options (Numbers from 1 to 5). The obtained information was analyzed by using descriptive statistics (frequency, percentage, mean score and standard deviation) and analytical (Spearman correlation coefficient and linear regression) and software SPSS15.

**FINDINGS**

The present study was done on 250 nurses working in the hospitals of Medical Sciences University of Zahedan. Nurses participating in the study, 0.86% was male and 0.14% was female. The majority of them namely, 82.8% were under 40 years old and 66.2% of them had less than ten years work experience.

The average score obtained for organizational culture was $1.35 \pm 7.89$ and its components have had a similar average score. The total score of knowledge management was assessed $15.4 \pm 62.0$ and mean score of subscale of knowledge management includes knowledge creation, knowledge capture, knowledge organizing, knowledge storage, knowledge dissemination and knowledge application $10.4, 10.2, 10.7, 9.8, 10.3$ and $10.4$ respectively.

<table>
<thead>
<tr>
<th>Components of knowledge management</th>
<th>Knowledge creation</th>
<th>Knowledge capture</th>
<th>Knowledge organizing</th>
<th>Knowledge storage</th>
<th>Knowledge dissemination</th>
<th>Knowledge application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational culture</td>
<td>Correlation coefficient</td>
<td>0.38</td>
<td>0.41</td>
<td>0.45</td>
<td>0.41</td>
<td>0.41</td>
</tr>
</tbody>
</table>

P<0.01

The results of Table 1 indicates the moderate positive correlation between organizational culture and components of knowledge management in studied nurses.

<table>
<thead>
<tr>
<th>Sources of change</th>
<th>Sum of squares</th>
<th>Degrees of freedom</th>
<th>Mean Square</th>
<th>F ratio</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>42.82606</td>
<td>6</td>
<td>73.13767</td>
<td>14.90</td>
<td>0.001</td>
</tr>
<tr>
<td>Remaining</td>
<td>17.224467</td>
<td>243</td>
<td>73.923</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The information provided in Table 2 indicates that the effect of regression (F=14.90) caused by knowledge management components is statistically significant. According to the results obtained in the above table it can be stated that the predictive ability of organizational culture of studied nurses is through their knowledge management components. Hence, components of knowledge management are eligible to predict organizational culture (p<0.001).

**Table 3. Results of predicting organizational culture based on knowledge management components**

<table>
<thead>
<tr>
<th>Statistical Indicators</th>
<th>Non-standardized coefficients</th>
<th>standardized coefficients</th>
<th>T Ratio</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beta</td>
<td>standard error</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Constant coefficient</td>
<td>120.41</td>
<td>8.16</td>
<td>-</td>
<td>14.75</td>
</tr>
<tr>
<td>knowledge creation</td>
<td>0.53</td>
<td>0.99</td>
<td>0.04</td>
<td>0.53</td>
</tr>
<tr>
<td>knowledge capture</td>
<td>1.06</td>
<td>1.17</td>
<td>0.09</td>
<td>0.90</td>
</tr>
<tr>
<td>knowledge organizing</td>
<td>2.73</td>
<td>1.21</td>
<td>0.23</td>
<td>0.24</td>
</tr>
<tr>
<td>knowledge storage</td>
<td>0.94</td>
<td>1.16</td>
<td>0.07</td>
<td>0.80</td>
</tr>
<tr>
<td>knowledge dissemination</td>
<td>0.31</td>
<td>1.08</td>
<td>0.02</td>
<td>0.28</td>
</tr>
<tr>
<td>knowledge application</td>
<td>2.84</td>
<td>0.97</td>
<td>0.26</td>
<td>2.91</td>
</tr>
</tbody>
</table>

There is a significant correlation (P <0.001) between components of knowledge management and organizational culture among nurses working in Zahedan Medical Sciences University and elements of knowledge organizing and knowledge application were significant predictors in this model (Table 3). Totally, components of knowledge management about 26% was predictor of organizational culture.

**DISCUSSION**

To identify the organization and investigate the behavior and performance of members of an organization, awareness of organizational culture is an important and fundamental step. Thus, to do any new action in organization, paying attention to culture of that organization is essential because by leverage of culture the variation can be implemented simply and new directions can be sustainable in the organization. In fact, any change in the organization will not be effective without sufficient attention to corporate culture. Also, if managers are seeking to increase productivity and organizational performance, they should consider the constituent elements of corporate culture. The results of the study of organizational culture among nursing staff of hospitals of Zahedan Medical Sciences University indicate the relative balance of their evaluated score in all dimensions that based on Denison model due to the inherent contradictions among various aspects of culture, the best possible situation for an organization is the balanced growth of various dimensions in it. A healthy organizational culture provides an open, sincere, confident, creative,
collaborative, experimental, scientific, rational, logical environment in the liberation of abilities of individuals and potential of the organization (Gorden, 2005). Also, the mean score of knowledge management of nurses in the hospitals of Zahedan Medical Sciences University was less than average. The study results of Ameri (Seydameri, 2008) and Karami (2005) in the center of the Bahman Khodro also indicated that the knowledge management was in moderate state or lower than it. In line with these studies, Moghadam Zanjani has stated that knowledge management is weak in Medical Sciences University of Zanjan. In studied hospitals, 65.5% of the staff have evaluated knowledge management weak, 43% average and only 5% strong (Valimoghadam Zanjani, 2008).

Knowledge management has many benefits for organizations. Knowledge management at individual level will allow staff to enhance their skills and experience by working with others and sharing in their knowledge and learning to achieve professional growth. At the organizational level, knowledge management has four major advantages for an organization. Improving organizational performance is through efficiency, productivity, quality and innovation thus, organizations consider knowledge management as a strategic and competitive advantage (Seifollahi, Davari, 2008). Knowledge management helps organizations deal with changes continuously through learning and renewal of knowledge (Rading Allen, 2004). In line with knowledge management implementation three key issues have raised which including the formulation of strategic plans based on knowledge, forming knowledge groups, and reward-based reward and wage system (Tat, Stewart, 2007). Although accessing to knowledge-based organization is difficult, organizations should plan to improve and implement knowledge management. The findings indicated a positive relationship between organizational culture and components of knowledge management. Multiple regression analysis showed that factors of knowledge organizing and knowledge application were predictor of organizational culture. In this regard, Rai (2011) in his study stated that since the hierarchical culture leads to the improvement of procedures and processes of the system, it entails the reinforcement of organizing processes and knowledge storing which have beneficial effects on knowledge management (Rai, 2011).

Also, De Long and Fahey (2000) in his research reported that in order to the knowledge management to be successful in an organization the existence of a competitive culture that motivates employees and gives positive feedback is necessary which in their own turn resulted in the development and circulation of knowledge in the organization. Also showed that timely support, reward and encouragement of people plays an important role in the relationship between people and knowledge of organization (Delong, Fahey, 2000).

Jafari and colleagues (2012), in their study investigated the relationship between organizational culture and knowledge management among teachers in Ahvaz city and concluded that there is a significant and positive relationship between organizational culture and all its seven factors (competition, social responsibility, supportiveness, innovation, emphasis on reward, performance orientation, stability) with knowledge management. Also, the regression results revealed that all seven components of organizational culture can predict knowledge management that its R-squared value was 0.71 and this means that predictor variable (organizational culture) can predict 71% of the changes in knowledge management. β coefficient also showed that competition component has the most power to predict the knowledge management (Jafary, Abbaspour, Azizishomami, 2013). Perrin (2005) in a study entitled “the analysis of the usefulness of integrated knowledge to manage the organizations” came to the conclusion that the most effective tool for knowledge exchange and sharing among staff of organization refers to the use of email, Internet, and corporate culture along with knowledge management that due to the improper and untimely use of this tool, knowledge is exchanged among employees of economic institutions with delay and individuals’ needs cannot be met on time in terms of working knowledge (Perrin, 2005).

An organization should identify, acquire and storage its required knowledge in order to be able to apply it in necessary situations. Knowledge Management includes the processes of knowledge creation, knowledge validating and knowledge forming, knowledge distribution and its scientific application in the organization. Actually, the ultimate goal of knowledge management is the application of knowledge to improve organizational performance. Knowledge in itself is not valuable, but it is valuable when it is used (Shami Zanjani, 2009). Knowledge management aims to ensure that whether the knowledge of the organization is used for its benefit or not (Martin, 2011).
Martin (2011) conducted a study entitled investigating the relationship between organizational culture and knowledge management in eight different organizations of America. His study results showed that organizational culture is positively related to knowledge management. He also concluded organizations that enjoy relative stability and support people in difficult situations cause the people to be more interested in learning, creating and developing knowledge (Martin, 2011). With regard to what has been mentioned the most important thing is that due to the low level of familiarity and applying the principles of knowledge management in health and treatment organizations, administrators should plan in this regard. Accordingly, Elsey & Eskandari said that, health and treatment plans are directly guided by knowledge. These two researchers in their study results emphasized on the need of senior managers in knowledge acquisition and modernization of education in teaching hospitals of Iran (Elsey, 1999). Therefore, according to the results of this study and previous studies, health care organizations can make knowledge applicable by using and dissemination of corporate culture and employee participation.

**CONCLUSION**

As the results showed, knowledge management and corporate culture are associated with each other. Managers with a focus on organizational culture can play a role in improving knowledge management and vice versa. According to the regression test results, it is proposed to emphasize on the knowledge dissemination or sharing to develop organizational culture among the studied population and this is achieved through establishing trust atmosphere in the organization so that employees do not feel danger from the professional knowledge transfer to other people, encouraging knowledge-oriented individuals to transfer knowledge to other people and define a process by which competitors’ knowledge to be exploited. Encourage employees to exchange knowledge and experiences with each other, forming group sessions to exchange ideas, creating a friendly and reliable atmosphere among employees, preparing bulletins and group discussion to decide in certain cases, increasing interaction between officials and staff, facilitating the access of employees to information related to their work, and increasing the interactions among employees that their work is linked together are considered to enhance knowledge management in the research population.

Any conflict of interest has not been expressed by the authors.

**APPRECIATION**

It is necessary to appreciate the nursing staff of Medical Sciences University of Zahedan who helped us in the accomplishment of this study. This study is derived from the MA thesis of Educational Administration of Islamic Azad University of Kerman.

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THE CHARACTER OF BUILDING APPEARANCE OF THE MONUMENT HELAL IBN IBN ALI (AS) THROUGH COMPARISON OF TRADITIONAL AND CONTEMPORARY BUILDINGS OF ARAN AND BIDGOL BASED ON QUALITATIVE INDICATORS OF DE BATTON

Ahmed Danayeeefar  
Assistant Professor, Department of Design and Art, University of Kashan, Kashan, Iran

Habibollah Pourebrahimi Arany  
Architecture graduate student, Department of Design and Art, University of Kashan, Kashan, Iran

poorebrahimi.h177@yahoo.com

ABSTRACT
Ignorance of the dignity of holy shrines in the design and provision of infill projects on one of the most important religious buildings, the tombs of saints and solving design problems through visual elements or techniques which are not in common with application subject led to users’ behavior and communication is reduced to a minimum. This article focuses on the tomb shrine of Helal bin Ali (AS) in Aran and some other traditional buildings and comparative comparison with some contemporary buildings in the same city is trying to analyze the factors affecting the visual character of the buildings. The study is a correlation one and gathering information has been done through library studies, field studies and observation. Explanation has been done as analog and analysis of the results in the comparative figures have been derived from the proposed model of Rappaport. In this respect, indicators of happiness, luxury, readability and meaning were measured based on votes De batton and for four species of architecture two groups of traditional and contemporary buildings have been studied. The results of the comparison charts of happiness and luxury of traditional buildings, suggests the superiority of six points of Helal bin Ali (AS) tomb shrine compared with the average of other three buildings; which this positive difference, compared to the average contemporary buildings has been four and four and a half, respectively. This superiority in readability and meaning indicators in comparison with traditional and contemporary buildings has been four and four and a half, respectively. The results of the study indicate that due to respect of quality indices raised, the relative richness of the architectural monument of shrine Helal bin Ali (AS) is premium, and sense of belonging to place has been preserved among the pilgrims and adjacent.

Keywords: Aran and Bidgol, Monument of Helal Ibn Ali (AS), character, quality indicators of De batton

INTRODUCTION
Not only in Iranian-Islamic culture, but in all human societies, with any culture and infrastructure of any faith, always individuals status has been took special attention. Obviously, the status largely is provided through presence in the architectural space. Wherever architecture appears consistent with human dignity will be resulted in an appropriate response; and in the case of rash design; will have undesirable results. Sometimes even the expression of social status through outward shape and exterior appearance of the house or place alleged to person occur. Neighborhoods and urban spaces express social status as well. So, the view and even the type of plant and organizing them in front of gardens, is widely used in many areas to express dignity (status). The bars and other components also are examples of such. Therefore, one of the key architectural role is foundation to dignity (status) and protect it, whether for human or building.

According to De batton, architecture carries ethical message, that instead of imposing, inviting people to its side. We have been trying to establish a kind of unity between mind and our inner world and peripheral visual world and associative thinking contribute to this important. So, we consider something beautiful; that fits with our mental values and make us pleased and happy. Thus, it may be concluded; the beauty is the same joy (4). To measure the aforementioned unity, happiness and luxury index include: decorations, colors, attention to detail, materials, elements of nature, as well as readability and significant indices includes:
symbol, sign and dreamy, discipline and simplicity, diagnosis and shaft sealing, glory of scale, lighting and shadow and light, seem appropriate. These characteristics may be the category of beauty or glory.

Although a wide variety of means to establish and maintain the dignity of the building, but in this study to focus more on two important and comprehensive indices of << luxury and beauty >> and << readability and meaning>> based on findings, from Alain de Botton views are produced and for four groups of character, two groups of traditional buildings have been selected as assessment criterion.

PROBLEM STATEMENT AND NECESSITY OF TOPIC
Readability and meaning are two important indicators; that have significant impact in viewer’s understanding of the architectural space. Also happiness and luxury are two other factors of building which are involved in creating different moods in people. This article concerned with is the ignoring of the dignity differences of various buildings and as a result solving design problems with tools, visual techniques or elements; with no common aspect with the building’s application and in addition to wrong understanding of the building, does not meet necessary and according to need visual feel. People's different behavior in different situations, greatly influenced by the designed environment or on the other words the architectural space. Also, lack of sufficient knowledge of the character of the various groups has led to what is expected, not to be realized in terms of performance of a building. Improper use of architectural elements and concepts, led to deterioration in the human behavior and communication with the building and thus denying the norms. This increases the responsibility of architects and designers and they obliged to study and take effective measures. Therefore, such a research seems necessary.

RESEARCH OBJECTIVES
1. To identify and enhance the design parameters in the tombs of saints
2. The promotion of religious tourism by strengthening indicators of quality in architectural design.

RESEARCH QUESTIONS
1. Contemporary and traditional buildings of Aran and Bidgol have what level of happiness and luxury and readability and significantly compared each other?
2. How is the appearance status (dignity) of the building of monument shrine Helal Ibn Ali (AS) as a traditional building of cultural-religious group compared other traditional and contemporary groups within the outlined parameters?

RESEARCH HYPOTHESIS
- It seems the order in the indices of happiness and luxury (A) as follows:
  2<4<1<3
- It seems the order in the indices of meaning and readability (B) as follows:
  4<3<2<1
- It seems the appearance of the building of monument shrine Helal Ibn Ali (AS) compared different traditional and contemporary buildings groups has a good position (status), because before any scientific study, presence in the complex is accompanied by a feeling of mental freshness and a kind of humbleness by people to that.

RESEARCH METHOD
The study is a correlation one and gathering information has been done through library studies, field studies and observation. In this respect, indicators of happiness, luxury, readability and meaning were measured based on votes De batton and for four specified buildings various character spices including: cultural-religious monuments, political and governance structures, economic, recreational and residential buildings and municipal services buildings from two groups of traditional and contemporary buildings has been examined. The mechanisms of people’s communication with environment from Amos Rapoport’s views were basis of assessment. Also, comparative explanation was used to analysis of results obtained in comparative charts derived from his proposed model. Then the logical reasoning of achievements from graphs and tables led to the obtained results.
COMMUNICATION PATTERNS OF PEOPLE AND THE ENVIRONMENT
These patterns, by which people understand space and compare the character to its dignity, include (3):

1. Physical condition: adaptability and comfort with respect to temperature, humidity, brightness and...


3. Perception: The most important mechanism, is receiving sensory information from the environment

4. Knowing (cognition): it is related to mental processes that involve between the perception (of information) and knowledge of the environment

5. Meaning: it is related anthropological aspects of knowledge, reflecting the hidden and very important aspects and involves images, ideals and social status, identity and many aspects of environment

6. Effects: the sensation and mood concluded by the environment

7. Assessment: it is led to priorities and choices most often based on demands (and in connection with the meaning and consequence) rather the needs

8. Activity and behavior: reply to understand, meaning, work (effect) and evaluation

9. Sponsorship: it can be physiology, anatomy, psychology and so on

10. Expectations, norms, standards and rules: values, images and ...for certain expectations and as a result lead to norms, standards and laws

MEASURES OF ASSESSMENT
A- Happiness and luxury indices include:
Decorations+ color + attention to details + materials + nature

B- Readability and semantic index include:
Symbol, sign and fancy + discipline + diagnostics and … + glory of scale + lighting and shadow and light in day

Formula: (-2 to +2) + (-2 to +2) + (-2 to +2) + (-2 to +2) + (-2 to +2)

FOUR CHARACTER TYPES
Types 1: socio-cultural monuments, cultural-religious monuments, academic buildings

Socio-cultural monuments include: the cultural center, museum, seminary school and …

Religious-cultural monuments, including: mosques, Mosalla, religious site, tomb and…

Scientific monuments include: university, school and...

Type 2: Political and government buildings, monuments of criminal and law, regulatory and legal structures

Political and governance structures, including: the governors, governors, ministries, county and...

Law and crime structures, including: the judiciary, police, courts, prisons, conflict resolution and...

Regulatory and legal structures include: traffic, public monitoring, engineering organization, medical systems

Type 3: economic, recreational and residential buildings

Economic monuments, including: banks, businesses, shops and …

Recreational buildings, including hotels, gardens, Game Center, restaurants, gyms, swimming pools and...

Type 4: urban utilities buildings, health care buildings
Monuments utilities include: post, telecommunications, municipal
Urban utilities buildings, including hospitals, pharmacies, clinics and...
The introduction of traditional buildings to analyze on the basis of De Batton indexes
Traditional building of type 1: Shrine tomb of Helal Ibn Ali (AS)

Mohammad Osat nicknamed Helal, known as Mohammed Hilal Ibn Ali (AS) and his noble mother, Amameh, Zainab’s Daughter, is child of the Messenger of Allah (PBUH). His exile, has been after the Ashura event in 61 AH [Anno Hegirae] and from Taif to Tus, Qom and Aran. He was hosted by Jacob in Aran for three years; and on Friday night last ten days of Ramadan of 64 AH joined to his holy ancestors (peace be upon them). The building of honorable’s tomb dates back to the Safavid era and Shrine roof and mirror work has been done on a vow and ordered by Karim Khan Zand.

TRADITIONAL BUILDING OF TYPE 2: MINISTER’S CASTLE
This castle has survived within the north part of the White City (Sefid-Shahr) of central part of Aran and Bidgol with the military use of historical monuments.

TRADITIONAL BUILDING OF TYPE 3: MARANJAB INN

This inn (Caravanserai) is located on the Silk Road and with respect to the nature and the arid climate of Maranjab, has introverted architecture. This monument has a central courtyard and of four porches type. This
building consists of entrance and vestibule (narthex) entrance, four Porches, cells with front entrance of porch, around the courtyard and stables and is four towers at the four corners.

TRADITIONAL BUILDING OF TYPE 4: HISTORICAL ĀB ANBĀR OR WATER RESERVOIR (FRIDGE CORNER)
(Pictures from the author)

This āb anbār or water reservoir currently has two input doors. Dating back to the Qajar; and access to main entrance and old Pashyr [the standing in cellar where water is provided] with 31 stairs to a height of 27 cm, and for new entrance Pashyr with 32 stairs to a height of 20 cm is possible. Entry level difference to the bottom of the water tank is about 8.5 meters. Āb anbār or water reservoir also has two windward which have been located on both sides of the rectangular water tank. The roof (top) of water tank is four-piece and dome-shaped. The old entrance has an inscription with polychrome tiles, containing Do-bayti (in Persian, a poetry style). According to the ancients one Pashyr has been for men and one for women.

The introduction of contemporary buildings to analysis based on De batton’s indices

The contemporary building of type 1: Tomb of Suleiman Sabahi Bidgoli

Haj Suleiman Sabahi Bidgoli, of famous poets and literary movement founders called return. He died in the early reign of Fath Ali Shah Qajar dynasty (13th century AD). This great poet's tomb located in the vicinity of Imam Hussein, in the quarter of Darb-e Rig (gritty door) of Bidgol.

Do-bayti (in Persian, a poetry style)

My homeland is Bidgol but no one has seen the dawn

In the hand of flower, or on the crown of my willow shade

(Pictures from the author)
CONTEMPORARY (MODERN) BUILDINGS OF TYPE 2: GOVERNOR BUILDING OF ARAN AND BIDGOL
Aran and Bidgol, is northernmost city of the Isfahan province which new Governor building of it was inaugurated in 2009.
(Pictures from the author)

CONTEMPORARY (MODERN) BUILDING OF TYPE 3: COMMERCIAL COMPLEX OF SHABAN
This building located in Sepah square of Aran and Bidgol includes a variety of shops, business offices, offices and clinics.

CONTEMPORARY LIKE BUILDING 4: DEPARTMENT OF TELECOMMUNICATIONS OF ARAN AND BIDGOL

This building was put into operation in 2012

Analysis of traditional buildings in luxury and happiness index
1-Monument of Imam-zadeh Helal (AS)
2. Minister's Castle
3- Maranjab inn (carvan sara)
4- The corner Ab anbār or water reservoir

**ORNAMENTS**
Type 1 - The ornaments are maximal in the body wall and the dome and are minimal in the windows and doors. Ornaments are in the form of arches, geometric shapes, nodes, etc. and in Tiling [Kashi Kari] and mirror work [Ayneh Kari].
Type 2-There's little information about ornaments and is limited to a few semi-circular arch arcades on the walls.
Type 3-Pointed arches, Rasmi bani (in Iranian-Islamic architecture), Ma’aqly with pinwheel design and a bit of bricklayer decorating has got the necessary liveliness to facades.
Type 4- Pointed and decorative arches, a bricklayer, a network of Jafari, snap brick, thatch and Karbandi (In Iranian-Islamic architecture), each of them have been applied shortly and in brief.

**COLOR**
Type 1-The total area has been covered by exterior turquoise blue, but the color variation is evident as well.
Type 2-Uniformity in color and exclusivity to the gray and avoidance from variations in coloring is at minimum.
Type 3-In the background of brick color of entrance, one or two colors cautiously and selectively have been used.
Type 4-The facade is limited to a few colors of brick, chocolate Simgel (mortar of plaster and mud), white and a little blue.

**ATTENTION TO DETAILS**
Type 1-In the dome, finial, body and forehead and the porch centimeter accurate has been considered, but the stone plinth and windows are exception.
Type 2-All the visual elements of building are general and detailed levels has not been undefined at all and.
Type 3-Despite the simplicity of the facade, details deliberately especially in the Karbandi and bricklayer has been considered.
Type 4- It is different at various levels. In the Simgel (mortar of plaster and mud) and bricklaying less and in decorative plaster arcs and in Jafari network is more.

**MATERIALS**
Type 1-Body tile, plinth stone and mirrors on the porch are the main used materials, but with different ratios induce happiness.
Type 2-Is limited to clay, which has the most positive effects on humans.
Type 3-Baked brick and a bit of glazed tile which raw materials in both is clay, involved with its positive energy.
Type 4-The right combination of brick and thatch with a lot of positive energy and gypsum has added to the charm and vitality of building.

NATURE
Type 1-In the view of the front of building, green nature does not exist, but blue sky or dispersed clouds and finial create a nice combination and waterfront is basis for important natural element of water.

Type 2- Considering the location of the building, its share of the nature is limited to the sky and barren desert.

Type 3- Given being in the desert, its share of nature, is the picture of sand dunes adjacent to the building and the sky above.

Type 4- Apart from the skies above the building, only the design of Jafari networks (grids) rooted in nature.

ANALYSIS OF TRADITIONAL BUILDINGS IN READABILITY AND MEANING INDICES

1-Monument of Imam-zadeh Helal (AS)
2. Minister's Castle
3- Maranjab inn (carvan sara)
4- The corner Ab anbār or water reservoir

SYMBOL, SIGN, AND FANCY
Type 1- The finials to the sky, evokes need hands to the Creator, and also spiritual growth to infinite. Skyline with immersed elements at twilight and dawn nature, give fancy pictures to the viewer.

Type 2- The combination of input elements and its volume emphasize the power lied in the building. Its shape particularly the two sides arch-shaped, with angle in top horizontal lines, associate the dynamism and readiness to offensive or defensive referring its military use well.

Type 3- The outer elements of building evokes a kind of lightness and freshness with a sense of security that is required in inn.

Type 4- The visage of building review an image of earth deep to top of sky for the viewer. Ab anbar (water reservoir) stairs and its roof downward show us the most precious source of life and the windward shows us the infinite power.

ORDER AND SIMPLICITY
Type 1- The arrangement of elements is irregular. Although is not simple and associated with significant variation.

Type 2- Arcades repeat on both sides of the wall suggests the order of the building. Aside from the arc used, the simplicity is its peak.

Type 3- Members beside partial diversity regularly and properly are located in their place.

Type 4- The arrangement of elements has no certain order, and continuity of simplicity is too low.

INDIVIDUATION AND AXIS
Type 1- The facade to the vertical axis has perfect symmetry and if two small finials on the sides did not exist, the individuation of main theme seemed more complete.

Type 2- The building to the vertical axis has symmetry; the individuation is maximal.
Type 3- The building to the vertical axis has symmetry; but the rough equality of entry height, and the rest of the body has reduced its individuation.

Type 4- Each member of has separately symmetry to vertical axis alone, but the building in total doesn’t have the symmetry. Therefore, the individuation can’t be ascertained, as well.

GLORY OF SCALE
Type 1- The building to human scale and the around monuments has glory of a sacred edifice.
Type 2- As qualified for building’s use, has the grandeur and glory of scale to the human dimensions.
Type 3- Unlike buildings of this group, Maranjab inn due to placement in the desert has been performed with a larger scale to beside the provision of introspection provide the necessary security and peace.
Type 4- The ab anbar (water reservoir) can be investigated in human scale. But windward due to unique application (use) has dimensions beyond it. Totally man does not feel humiliation in front of the building.

SHADOW AND LIGHT (PENUMBRA)
Type 1- Windows are not indented, but the prospect of three fronts simultaneously, creating a beautiful shadow and light (Penumbra) and movement. Also porch and two side entrances and the dome and finials volume, gives people the opportunity to watch play with a beautiful light.
Type 2- Is limited to indent of arcades.
Type 3- The protrusion of entrance vestibule to the rest of the body, creates Shadow and light (Penumbra); the rest of the body is uniform. Only the rectangular towers add a small to this feature.
Type 4- Shading and play with light and shadow in building than its size is maximal. The today's technology in electricity has spread this soft into the night.

THE COMPARISON OF CONTEMPORARY BUILDINGS IN LUXURY AND HAPPINESS INDICES

Type 1- Tomb of Suleiman Sabahi
Type 2- Governor building
Type 3- Shaban complex
Type 4- Department of Telecommunications

ORNAMENTS
Type 1- Unmixed tile, with simple strips in the dome, Gilloyee (The distance between the ceiling and the wall) by repeating semi-formal work design, exist in the head of the body, bricklaying, tile and decorative arches.
Type 2- Limited to capitals and cement stripes, eaves of ceiling and arch of window top of the entrance.
Type 3- In the conventional sense is not seen except under the entrance roof, but building has been decorated with various thematic structure and different designs, of course simple.
Type 4- There are no ornaments (decorations) and building name in a small frame, has a brief word to say.

COLOR
Type 1- The turquoise blue dome in combination with white and dark, on the ochre, cream and turquoise facade are among characteristics of this building.
Type 2 - A combination of white, brick, blue, brown, gray, are variety set of pretty cool colors on the facade.
Type 3 - A combination of white, brick, blue, brown, gray, are variety set of pretty cool colors on the facade.
Type 4 - Only one brick color has been used in facade, and only the logo and the name of building has different colored spots.

ATTENTION TO DETAILS
Type 1 - At all levels except the stairs and stair elements of building base, detail has been carefully considered.
Type 2 - The constituent elements generally are introduced, and except a few in forehead ornamentation, in the rest of levels the details have not been addressed.
Type 3 - Details role in the introduction of the building is very pale. But on a larger scale each level has different details.
Type 4 - Attention to detail is minimal

MATERIALS
Type 1 - Tile, concrete (cement), brick, and stone, are the material of dome and body, a perfect combination to induce happiness and dignity in the same.
Type 2 - Cement, tile, brick and stone have created a cold and serious combination.
Type 3 - Materials of composite facade of glass, aluminum sheet, stone and a few brick have a high percentage of happiness.
Type 4 - Monopoly of materials to brick only, has minimized the attraction of the building.

NATURE
Type 1 - Above sky and a number of trees in the vicinity of the building, are the only symbols of nature.
Type 2 - Green space around the building, and with greater accuracy in the frame of the building name, the ivy sidelines are symbols of nature.
Type 3 - Urban green space and trees of the square, around the building, are the share of building from nature.
Type 4 - Now the nature share in the building is negligible.

THE COMPARISON OF CONTEMPORARY BUILDINGS IN READABILITY AND MEANING INDICES

Type 1 - Tomb of Suleiman Sabahi
Type 2 - Governor building
Type 3 - Shaban complex
Type 4 - Department of Telecommunications

SYMBOL, SIGN, AND FANCY
Type 1 - Although it has been tried with diversity the materials and design, create a proportionate to the tomb of the famous poet, but visual weight still dominant in the building. Only the image of a hemistich of poems with a beautiful line of Nastaliq helps to poetry space.
Type 2 - The columns of even-numbered entrance side, with the Doric order capitals and ornaments inspired by the architecture of Rome and Greece in the forehead of building shows it in a position of power, and concise tiles can’t be used to compensate for it.

Type 3 - Signs of forgot of climate and architectural identity of the city can be seen in this building, but fancy in it has more strength.

Type 4 - The building view reflects fully machined and performance mood and, and without any emotion continues its life.

ORDER AND SIMPLICITY
Type 1 - The building in addition to the diversity and complexity has a particular discipline in repeating elements of all around.

Type 2 - Except elements such as ramps and stairs of the basement the rest arranged with perfect order, but the simplicity of façade can’t be considered absolute.

Type 3 - The building doesn’t have order and the chaos is apparent and despite the simplicity of component elements, except in overall glance looks complicated.

Type 4 - Order and simplicity are at its peak.

THE INDIVIDUATION OF AXIS
Type 1 - By rotating around the building it is perceived, that all of its eight sides have symmetry about the vertical axis and its individuation is high level.

Type 2 - The building to the vertical axis has symmetry and totally a considerable individuation.

Type 3 - Parts of the facade have symmetry about the vertical axis separately, but in total, the building has no symmetry and individuation.

Type 4 - The building to the vertical axis is symmetrical; and individuation in it assessed average.

GLORY OF SCALE
Type 1 - The height of building has out it from proportion with human scale and gave a certain glory to it.

Type 2 - Short-height of entrance door to the building indicates the glory of its scale.

Type 3 - The dimensions in each stratum is proportional to the human scale. However, the building compared other buildings have significant glory.

Type 4 - Due to the integration of building the man sees himself small in it, but not weak.

SHADOW AND LIGHT (PENUMBRA)
Type 1 - The shadow of sides (angles) with very gentle angle on each side, plus rotating shade within the building which is also visible from the outside contributes in more diversity.

Type 2 - The main facade direction towards the northwest, minimizes the contribution of light and shadow, but the rotation of forehead’s shadow on the body in the afternoon can’t be ignored.

Type 3 - Basically due to the curvature of the building and the frequent surface differences the shadow and light (Penumbra) show should be at its peak. But due south direction and direct radiation in many hours it has been moderated.

Type 4 - The main facade is in the north and does not see a remarkable light in itself. Brief early hours of light in the projection of building and in the entrance converted to shadow and light (Penumbra).

ANALYTICAL DIAGRAMS OF TRADITIONAL AND CONTEMPORARY BUILDINGS IN A AND B INDICES

(Chart 1) Happiness and luxury index for traditional buildings
Traditional Buildings

(Rappaport charts and luxury happiness index

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ornaments</td>
<td>color</td>
<td>Details</td>
<td>Materials</td>
</tr>
<tr>
<td>2</td>
<td>+6</td>
<td>-7</td>
<td>+4</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1</td>
<td></td>
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</tr>
</tbody>
</table>

(Chart 2) Happiness and luxury index for contemporary buildings
(Chart 3) Readability and meaning index for traditional buildings
(Chart 4) Readability and meaning index for contemporary buildings
(Chart 5) The comparison of happiness and luxury index for traditional and contemporary buildings

(Chart 6) The comparison of Readability and meaning index for traditional and contemporary buildings
RESULTS

The order of types in the index of A (happiness and luxury), according to this study: 2<4<3<1

The order of types in the index of A (readability and meaning), according to this study: 4<3<2<1

**Table 1** The comparison of status (position) of tomb of the Holy Helal Ibn Ali (AS) in index A: (happiness and luxury)

<table>
<thead>
<tr>
<th>2a&lt;</th>
<th>4b&lt;</th>
<th>4a,2b,3b&lt;</th>
<th>3a,1b&lt;</th>
<th>1a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Castle of minister</td>
<td>Telecommunications</td>
<td>Commercial Building</td>
<td>Tomb of Suleiman Sabahi, Maranjab Inn</td>
<td>Monument of Hilal bin Ali (AS)</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>+3</td>
<td>+4</td>
<td>+6</td>
</tr>
</tbody>
</table>

**Table 2** The comparison of status (position) of tomb of the Holy Helal Ibn Ali (AS) in index B: (readability and meaning)

<table>
<thead>
<tr>
<th>3b,4b,4a&lt;</th>
<th>1b,2b,2a,3a&lt;</th>
<th>1a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomb of Suleiman Sabahi, Governor building Commercial Building</td>
<td>Maranjab Inn Castle of minister Tomb of Suleiman Sabahi,</td>
<td>Monument of Hilal bin Ali (AS)</td>
</tr>
</tbody>
</table>
The results of the comparison charts of happiness and luxury of traditional buildings, suggests the superiority of six points of Helal bin Ali (AS) tomb shrine compared with the average of other three buildings; which this positive difference, compared to the average contemporary buildings has been four and four and a half, respectively.

CONCLUSION
Based on comparative graphs and tables (charts 1 to 6 and Tables 1 and 2 of the study), analysis suggests the building appearance of the mausoleum of Imamzadeh Helal Ibn Ali (AS) with significant concessions to different personality (character) types of traditional and contemporary buildings, has excellence (superiority) in both <<happiness and luxury >> and << readability and meaning>>. This conclusion represents the richness of architectural and means, on the one hand the building maintained its dignity and grandeur at the highest level and the same time, pilgrims and bystanders with presence in the doorstep atmosphere, have the feeling of joy and free soul. Thus, the architect architectures have done their mission properly.

ACKNOWLEDGEMENT
Hereby we acknowledge to all the institutions and those who the writing of this article and doing this research indebted to their invaluable assistance including: Architecture professors of Kashan University, Board of Trustees of Imamazadeh Helal Ibn Ali (AS), Department of Cultural Heritage, Handicrafts and tourism of Aran and Bidgol and technical training and professional office staff of Aran and Bidgol.

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<table>
<thead>
<tr>
<th>1+</th>
<th>+4</th>
<th>7+</th>
</tr>
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</table>

d. The results of the comparison charts of happiness and luxury of traditional buildings, suggests the superiority of six points of Helal bin Ali (AS) tomb shrine compared with the average of other three buildings; which this positive difference, compared to the average contemporary buildings has been four and four and a half, respectively.
AN ANALYSIS OF FACTORS AFFECTING TOURISM BRANDS IN RURAL SETTLEMENTS OF IRAN
(CASE STUDY: BINALOUD COUNTY)

Aliakbar Anabestani
Associate prof., Geography & Rural Planning, Ferdowsi University of Mashhad, Mashhad, Iran.
anabestani@um.ac.ir

ABSTRACT
Today, for a variety of reasons, communities create brands. One of the most important reason for creating tourism brands is to make a location seem attractive for tourists and encourage them to spend more time in an area and raise the residents’ standards of living. In this study, the factors affecting the formation of a rural tourism brand are examined from the perspective of experts and university professors. This study is an applied research conducted in a descriptive-analytical method. A major part of the data were collected through field studies, interviews, and filling out questionnaires by 30 experts active in the area together with 42 rural managers. The findings of the study based on the results of fuzzy hierarchical analysis showed that among the three factors, the economic factors with impact coefficient of 54.6% had the highest effect, and physical-environmental factors with the impact coefficient of 16.7% had the lowest impact on creating rural tourism brand. There was a little difference between the results acquired from the experts of the organizations and the academics about the impact of the above factors. With the aim of identifying villages suitable for creating tourism brand, we applied TOPSIS technique, and proposed Jagharq village as the most appropriate rural area for creating rural tourism brand. We also identified 10 other rural areas as capable of creating tourism brands. According to the findings, the following guidelines are recommended: to introduce and advertise certain products of the rural areas in urban areas, to pay special attention to entrepreneurship in rural areas, to provide tourism facilities in rural areas, to restore cultural elements, and to give special attention to restoration of past cultural elements, customs and traditions.

Keywords: Rural tourism, special products, entrepreneurship, Fuzzy Analysis Hierarchical Process (FAHP), Binalud County.

INTRODUCTION
Statement of problem
Today, tourism is one of the most important components of development and welfare. According to World Tourism Organization, Iran is the tenth country in terms of natural and artificial attractions. However, it is the one hundredth country in the world with regard to number of tourists that it has attracted in 1999. Compared to other countries which have higher revenue from tourism, one can perceive that tourism revenues of Iran has been significantly low, and tourism industry in Iran is quite underdeveloped. In addition to the lack of international interactions with other countries of the world, the obstacle to creating tourism brand in Iran include the lack of uniformed views about attracting tourists into country, not using religious tourism attractions or not publicizing tourism. According to expert views on tourism, the use of concepts attributed to tourism brand has been very ineffective in Iranian tourism industry. The core of Iranian tourism brand is essentially weak and the nature and status of Iranian tourism brand is not clearly defined. Besides, due to the lack of tourism brands and not having clarified the tourism core, there has not been adequate investment and development projects in tourism facilities and services (Hemati & Zahrani, 2014). In fact, tourism brand makes way for competition between different sectors of service industry, while on a broader level, it is competing with other tourism destinations in attracting tourists and offering more services, attracting investors and more investment and creating more job opportunities (Johansson, 2008). Meanwhile, some countries try to attract more tourists than others countries, this can be achieved when countries develop their domestic tourism. Rural tourism is a kind of the domestic tourism, which can facilitate the development of tourism at the national level. Attention to the rural tourism, especially in Third World countries is seen necessary (Amani et al., 2011). Currently, one of the reasons for the lack of rural tourism development is the lack of united tourism brands and inappropriate planning, as the project managers are not careful enough.
about the brands, and without considering its consequences have created obstacles for rural sustainable development. (Novghani et al., 2008).

Binalud County is not an exception. Studies show that considering the capabilities and potentials in rural tourism industry of the above County, attraction of tourists and the development of tourism is not in satisfactory conditions. Various factors are effective in creating the gap between current status and ideal one, including inadequate marketing advertisement (Ranjbarian et al. 2012) or in other words, branding. This study aims to identify the rural areas having a high capacity and potential for creating brands and symbols and the role of symbols in improving the quality of life in villages of the study areas. Therefore, this study seeks to provide an appropriate response to the following question: What are the most important factors affecting the creation of tourism brands in villages of the study area? In addition we try to identify the villages suitable for developing tourism brand in the study area?

Background of Research

Given the importance of brands in tourism at rural and urban settlements, evaluation studies have gradually begun to investigate the brand recognition and creation in recent years. Therefore, in this part we review the results of some studies conducted in Iran and other countries about the role of brands in tourism development in urban and rural settlements. In general, we noted that no specific studies have been conducted about creating brands and symbols in rural areas.

Popescu (2009) in his study “the branding potential of Bucharest: strategy and success factors” showed that Bucharest is still able to develop and revitalize through a brand. Vanolo (2008) conducted a study titled “the image of the creative city: Some reflections on urban branding in Turin” in which he discusses the role of creativity and initiatives among urban investors in Turin, Italy. Qu et al (2011) in a study titled “A model of destination branding: Integrating the concepts of the branding and destination image”, shows that overall image was affected by three types of brand relationships and it should be seen as an important mediator between the brand relations and future performance of tourists. There have also been some similar studies in Iran which are discussed in the following lines:

Ayubi Yazdi et al. (2011) in a study entitled “the importance of brands and branding in tourist destinations” hold the idea that branding of a tourism destination is not only about creating a logo or slogan, but it is about acquiring distinctive elements of the destination in the form of a brand and how these elements are related through the components of the brand. These components include: identity, essence, character, image, characteristics and culture. The management of these components to create a unique position for tourism brands in the minds of the consumers is called “brand positioning”. Mollazadeh & Eftekharinia (2011) in his study “Evaluation of the effects of urban branding in attracting tourists” came to conclusion that the use of the brands to attract tourists to the city has several advantages: First, by using their copyright, the brand would remain in that city; besides, the brand could change to a symbol of quality that is used to reassure the visitors. Moreover, long-term use would be a short way to remind the potential tourists of all the benefits. Qalamkar Mo’azam (2012) in an article titled “the Role of Iranian villages in rural tourism brand” came to the conclusion that rural tourism brand helps to select appropriate tourism projects and acts as a guide for the planners and can make way for low-income rural residents to benefit the tourism industry as a source of income. Barezani & Zargham Borojeni (2013) in an article entitled “pathology of Iranian tourism brand” have concluded that the core of Iranian tourism brand (composed of the character, positioning and brand commitment) has serious weakness and the efforts to create brands in Iran have been very poor. Karami et al., in a study titled “brand position in development of tourism and attracting tourists” concluded that the factors affecting the creation of a brand are: the sources of information (their volume and type), demographic factors such as age, education, psychological motivations and characteristics of the tourist destination. Ayubi Yazdi et al (2009) in a study titled “position and challenges of brand in tourist destinations” came to conclusion that tourism branding is more complex and to create a single identity in a destination, one should take into account the organizational culture of the area and analyze a variety of factors to create the identity of the destination in a way that includes all the stakeholders. Sorayyaee et al., (2012) in a study titled “the effect of urban branding image on tourism behavior in of Ramsar County” concluded that the image of the destination has an intermediary role between the components of ‘the image and brand relations, motivations and behavioral objectives’. A different and powerful image should not be the only goal of branding practices to draw the attention of customers, but it would act as an intermediate which affect the customers’
performance which is directly linked to the success of tourist destinations. Therefore, in a competitive tourism market, tourist destinations should create a strong and positive brand image.

THEORETICAL FRAMEWORK

Rural Tourism

Today, tourism is one of the important sources of income and at the same time it is one of the factors effective in cultural exchange between countries (Sojasi et al., 2011). Accordingly, researchers seek to investigate the role of tourism in socio-economic development of host communities in different levels of settlements. Tourism is of such an importance that it is believed to be a social phenomenon (Hultman & Hall, 2011) and considering its multi-dimensional nature, it does play a significant role in empowering the host community and enhancing the socio-economic changes (Dwyer et al., 2009 & Ateljevic, 2007). Rural tourism is one of the developing subsidiaries of tourism which has an increasing number of advocates. Rural tourism as a part of the tourism industry can play a significant role in empowering the local people and diversification of economic growth which can create new job opportunities in rural areas and other related sectors of the economy. From 1950s, tourism has become the focus of attention and from 1960s its economic dimensions have caught the attention of local communities. In the following decades, rural tourism was used as a tool for the development of rural communities, and in the meantime the experts have attempted to provide different models and approaches to increase the role of tourism in economic and social revitalization of rural areas (Jalalian et al., 2015). Any definition suggested for rural tourism, this activity provides relatively good background for rural development which can also provide good opportunities and facilities for rural employment and income-raising opportunities, and have a particularly important role in rehabilitation and modernization of rural areas (Mohammadi, 2011). In fact, rural tourism has developed as a form of tourism with the purpose of sustainable development of rural communities in rural areas and a tool for socio-economic development and as a modern business in rural areas (Ahmadian et al., 2015).

Economically, rural tourism could be studied in the framework of “supply-demand” and its development depends on three key factors:

1 - Attractions (natural and cultural beauties of rural areas);

2 - To provide the infrastructure and tourist services (roads, access, security, places of accommodation and catering, waste disposal and sewage systems);

3 - Cultural-commercial management (training, advertising, commercial facilities) (Zahedi, 2006).

Concepts and meanings of brands

In various studies conducted on brands, different definitions have been provided, some of which are briefly discussed in the following lines;

- Brand is a special intangible property that might be the main property of many businesses. As the brands have economic value, this category of assets (brands) have a significant effect on customer's choice, selection of staff, investors and government authorities. In the world of numerous choices, such an influence on commercial positioning and creating value for the shareholders is highly valuable and essential. Even non-profit organizations also view brand as a key asset through which they can attract a variety of grants, donations and voluntary aids (Najafipour et al., 2012).

- Brand is the recognition of products or services of a seller or group of sellers and to differentiate those goods and services from their competitors’ products (Aaker, 1991).

- Destination brand is a name, symbol, logo, trademark or any other graphics which defines the destination and distinguishes it. Besides, it promises the experience of a memorable journey to the tourists (which is exclusively the characteristics of the destination) (Ritchie & Ritchie, 1998).

- Travelling brand is sometimes called “tourism brand”. Most cities and places are more willing to have a tourism brand rather than an umbrella brand, as brands have a stronger voice and act in a more organized manner in interaction with geographical features (Baker, 2012).
Tourism destination branding creates an image of the destination in the minds of the tourists and is the main factor in a tourist’s considerations and criteria for decision-making (Kaplanidou & Vogt, 2003).

Bose Alen and Hamilton have a different definition for tourism: trademark is a shortcut for linking to the market through the data. Leslie d Chernatony, professor of Marketing School of Free Business of the United Kingdom believes, brand is the active participation in any relationship, or between customers and brand, or between employers and employees, employees and customers or employees and other stakeholder - (Dastjerdi Yousefi, 2006).

Rooney believes that brand is an expression, sign, symbol or a combination of them which is intended to identify the products and services of a seller or a group of them from products and services of other sellers.

American Marketing Association (2007) defines branding as a name, term, design, symbol, or any other feature that identifies one seller's good or service as distinct from those of other sellers (Johansson, 2007).

**Brand and tourism development**

Generally, tourists, especially potential tourists do not have enough time to do research about all their destinations. On the other hand, they will visit a city or a place only if they are assured about the logical benefits they will gain from the trip they are going to make. Therefore, the consumers (tourists) use the information a brand provides as a tool to select a product that meets their needs. Therefore, good and innovative design of brands and their messages and the advertisement of a brand designed for a town, will quickly and easily benefit the tourists. Creating a successful brand that can advertise a place for potential tourists in short phrases or sentences is highly efficient in attracting them, and this would make way for the efficient use of resources. To design unsuccessful and irrelevant brands do not attract tourists and would make them pessimistic about the features and benefits of the location and this means a waste of time and money.

An important point in the evaluation of a successful brand is the emotional appeal of the brand message, in other words, to what extent has the brand message been successful in stimulating the emotions of the tourists and encouraging them. The second point is the beauty and attractions of the village and its relevance to the brand created. After creating a brand, to conjoin the interests of the location to the brand, the brand message should be advertised on all promotional items such as brochures, local monthly and weekly magazines, local newspapers, local or provincial television networks, banners and billboards, on the cover of souvenirs and so on. Besides, in order to achieve maximum results and attract more tourists, experts in tourism industry especially marketers should work to build brand loyalty. If a successful tourism brand is created which will also create a pleasant tourist experience, continuous use of the brand would remind the tourists of their previous pleasant and enjoyable experience which tells him or her that there is still a good experience and nothing has changed that inherently attract them back. Therefore, in brief one can say that the loyalty to a brand is based on the relationship between the location (cities–rural areas) and visitors and ensures that when the visitor is planning to visit an area again, the memories associated with those places are first things that comes to their minds (Mollazadeh et al., 2011).

Clark has mentioned six advantages for the role of brand in attracting the tourists:

- As tourism product are highly complex, branding helps to limit the domain of the selection (confusion will be reduced).
- Branding will reduce the problems caused by intangibility of tourism products.
- Branding preserves the cohesion and stability in the markets and different time periods.
- Branding reduces risks factor connected with decision-makings about holidays.
- Branding facilitates the exact segmentation process of the market.
Branding helps the efforts made by the service provider become more centralized and coordinated. This way, the individuals work to achieve the same and coordinated results (Baker & Cameron, 2008).

In addition, the following points are worth attention:

- Branding strategies of different places are very important for strengthening the competition power of tourism destinations.
- Branding is a communication tool which creates and maintains competitive advantages.
- Brand is the most important marketing tool to build differentiation, and stimulate consumer emotions and encourage him to buy. Brands have social and emotional values for the consumers. Brand has a personality and speaks to the consumer (Kiani, 2008).
- Tourism is a service industry. For this reason, tourism products are provided in the framework of creating different experiences. Since it is difficult to sale an experience, branding can collect an experience as a single element that is easier to market (Blain, 2001).

**Factors affecting creation of a tourism brand**

The review of literature shows that factors affecting creation of a tourism brand for a tourism destination, for those who have not visited it, or have no previous experience of the destination include: tourism incentives, demographic properties and various information sources. The concept of brand is primarily an observational structure that includes mental outcomes of a person about knowledge, beliefs, feelings and general understanding of an object or a destination. Researchers in various fields believe that brand structure has two dimensions or evaluation:

A) Perceptual-cognitive evaluations,

b) Emotional evaluations;

Perceptual-cognitive evaluations refer to the knowledge and beliefs of an individual about perceptual features of a destination, and the emotional evaluations are associated with the sensation or feelings towards a destination. It is generally accepted that emotional reactions of an individual depends on his perceptual-cognitive evaluations and his emotional reactions are a representation of perceptual reactions of the individuals. But a comprehensive brand of a place is created as a result of the total perceptual-cognitive and emotional evaluations of a place. The following diagram shows a general framework for creation of a tourism destination brand. Many researchers in different scientific fields agree that two important factors are involved in creation of a brand:

A) **Motivational factors**

Motivational factors have their origin in external incentives, physical factors and also past experience of an individual.

B) **Individual factors**

Individual factors are the social and psychological characteristics of an individual.
Figure 1 – A general framework for formation of a tourism brand from a tourism destination

(Baloglu & McCleary, 1999)

The literature revealed that a series of factors are effective in formation of a brand. These factors include: a) information sources and raising awareness about the destination, b) individual factors. Both information driven factors and individual factors are effective in formation of a brand. In the model of Bearly and Martin (2004) and in the model proposed by Baloglu and McCleary (1999 a) there is a distinction between the stimuli (information sources, past experiences, distribution of visits) and individual factors (demographic and psychological factors). Therefore, considering the general factors that are related to the formation of a brand, it should be noted that the development of tourism brand in rural areas are in compliance with the above general principles, and a series of economic, social and environmental factors depicted in the following chart.
Figure-2 factors affecting the formation of a tourism brand

(Source: Research findings, 2015)

GEOGRAPHIC FEATURES OF THE STUDY AREA
Geographic location represents many rural properties, including population size, types of activities, accessible resources and potentials for growth and development. Accordingly, a plain compared to a mountainous location is significantly different from various aspects (Saeedy, 2000). The study area included Binalud County (Torghabeh and Shandiz), in southwest of Mashhad. Binalud County is situated in northeast of Islamic republic of Iran, it is bordering Mashhad County in North and East, it is bordering Chenaran County in the West and it is bordering Nishapur in northwest. Binalud County is located between 95 ° and 59 ° East longitude, and 35 minutes, and 41 seconds Eastern longitude, and 36 degrees and 6 minutes and 5 seconds to 36 degrees, 31 minutes 24 seconds Northern latitude, with an area of about 1161 square kilometers, equivalent to one percent of the total area of Razavi Khorasan Province. The distance between Torghabeh and Mashhad County is 4 kilometers, and Torghabeh County is located at an altitude of 1351 meters above sea level. Up to 2007, this area was one of the sub-divisions of Mashhad County. But in January 2007, it was promoted to a county by a decree of Council of Ministers. According to the latest decree of Council of Ministers, Binalud County has two districts (bakhsh): Torqabeh District and Shandiz District. It has four rural districts (Dehestan) including Abar deh, Shandiz, Jagharq and Torghabeh, and it has two towns: Torghabeh and Shandiz (Governor of Khorasan-e-Razavi, 2015).

Figure 3 – Geographical location of the study area
(Source: Research findings, 2015)

RESEARCH METHODOLOGY
To use a methodology, we mean to utilize the principles and frameworks that will guide the research. Clearly, the research methodology will be different based on the type, purpose and subject of the study. This study is an applied quantitative study benefiting field works for data collection and is based on descriptive-survey analysis. The data were collected through documentary research and field works. In documentary method, the researcher takes notes from books and documents and could be used in all scientific researches. We mainly tried to find the information and the results of previous relevant studies, so that we may find a general framework for topics discussed in this research through reviewing the literature of the study.

To investigate the factors affecting the formation of a rural tourism brand, we used Fuzzy Analytic Hierarchy Process (FAHP) and then ranked the villages of the study area through Technique for Order Preference by Similarity to Ideal Solution (TOPSIS).
Following the bugs found in Analytic Hierarchy Process (AHP), including the existence of unbalanced scales in judgments, uncertainties, imprecise paired comparisons and not fully reflecting the style of human thought, Fuzzy Analytic Hierarchy Process (FAHP) for the first time was proposed in 1983 by two fellow Dutch Van laarhoven and Pedrycz. This method is based on replacing the triangular fuzzy numbers in the matrix of paired comparison based on logarithmic least square (Pouraheri, 2010; Ataee, 2010; Habibi et al., 2014).

The following steps were taken in FAHP method:

1- To draw a AHP chart;
2- To make paired comparison matrix using fuzzy numbers;
3- To calculate normalized Fuzzy weight of each element (Si) for each line of paired comparison matrix;
4- To calculate the value of Si compared to each other;
5- To measure the weight of criteria and options in paired comparison matrices; and
6- To calculate the final weight vector (Ataee, 2010).

TOPSIS technique is a good way to find the best option, it is based on the concept that the chosen alternative should have the shortest geometric distance from the positive ideal solution and the longest geometric distance from the negative ideal solution. This technique consists of six steps including: to calculate the normalized decision matrix, to normalize the decision, to calculate the weighted normalized decision matrix, to identify positive and negative ideas, to calculate the distance from positive and negative ideals, to calculate the similarity to the worst or best condition (Habibi et al, 2014).

FAHP Solver 2014 was used for paired comparisons, and production of hierarchical processes and calculation of the weights in the hierarchical fuzzy process. To assign weight to criteria and sub-criteria, we utilized paired fuzzy comparisons which was conducted by two groups of experts of the organization (14 people) and the departments and faculties (16 people), and TOPSIS technique was used for rating the villages based on 14 indexes. For this purpose, two questionnaires were designed and filled out. One for paired comparisons which were filled out by 30 experts, and the other one was village questionnaires which were filled out by 42 rural managers of the villages of the study area. In these questionnaire, fourteen factors affecting the creation of a tourism brand in the villages of the study area were included and the villages were ranked using TOPSIS Solver 2014.

RESULTS
Factors affecting the formation of a rural tourism brand
Given the exploratory studies, three factors are involved in forming the rural tourism brand in economic, social, and physical-environmental fields.

B) Economic factors – Among the economic factors affecting the formation of a rural tourism brand, some indexes were identifies such as: the availability of specific products in a village, to have entrepreneurs and rural elites, capital investment, diversification of the economic activities, and the potentials of the region for capital investment. Among the respondents, three indexes including products, entrepreneurship and capital investment by coefficients of 26, 25 and 24 per cent ranked first to third. With regard to effects of economic factors, there was no difference between the views of experts from institutions, departments and university professors. However, with regard to ‘availability of a specific product’ experts of the institutions and departments assigned a weight of 29.2 percent to it; however, the professors assigned a weight of 24.8 percent. From the perspective of both groups and in general, the potential for tourism development was ranked last.

Table 1. Impact of economic factors on formation of a rural tourism brand

<table>
<thead>
<tr>
<th>Description</th>
<th>Product</th>
<th>Entrepreneurship</th>
<th>Capital</th>
<th>Job-creation</th>
<th>Tourism</th>
<th>total weigh</th>
<th>Professor</th>
<th>Expert</th>
</tr>
</thead>
</table>

Submit Date: 05.04.2016, Acceptance Date: 23.07.2016, DOI NO: 10.7456/1060AGSE/084
The use of tourism potentials while impact coefficient of significant difference was found 26.8% all the various kinds of tourism, including transport scene in rural areas Mashhad.

Source: Research findings, 2015.

B) social factors – Among the social factors effective in the formation of a rural tourism brand, some indexes were identified including: the cultural significance (antiquity, unique and rich rural culture and traditions in rural areas), the artistic significance (special crafts having artistic value), presence of educated people (trained and educated indigenous people in the village) and local participation (cooperation and participation of rural people in activities related to tourism). Among all respondents, two indexes of artistic and cultural significance with the impact coefficients of 38.2% and 25.8% respectively ranked first and second. With regard to ranking of social factors, there was no differences between the experts of institutions and university professors, but with respect to impact coefficients of cultural significance in the villages, experts of the institutions assigned a weight of 42.8, while the university professors have assigned a weight of 35.6 per cent. From the perspective of both groups and in general the spirit of partnership among the local villagers was ranked last.

Table 2. Impact of social factors on formation of a rural tourism brand

<table>
<thead>
<tr>
<th>Description</th>
<th>Cultural</th>
<th>Art</th>
<th>Education</th>
<th>Partnership</th>
<th>Total weight</th>
<th>Professors</th>
<th>Experts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural</td>
<td>(1,1,1)</td>
<td>(6,8,10)</td>
<td>(2,4,6)</td>
<td>(2,4,6)</td>
<td>0.382</td>
<td>0.356</td>
<td>0.428</td>
</tr>
<tr>
<td>Art</td>
<td>(1,1,1)</td>
<td>(1,3,5)</td>
<td>(1,3,5)</td>
<td>(1,3,5)</td>
<td>0.258</td>
<td>0.269</td>
<td>0.229</td>
</tr>
<tr>
<td>Education</td>
<td>(1,1,1)</td>
<td>(3,5,7)</td>
<td>(1,1,1)</td>
<td>(1,1,1)</td>
<td>0.235</td>
<td>0.250</td>
<td>0.218</td>
</tr>
<tr>
<td>Partnership</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.125</td>
<td>0.125</td>
<td>0.125</td>
</tr>
</tbody>
</table>

Source: Research findings, 2015.

C) physical-environment factors – Among the physical-environmental factors effective in formation of a rural tourism brand, some indexes were identified such as: accessibility (proximity and short distance to Mashhad metropolitan and towns of Torgahbe and Shandiz), natural potentials (beautiful and unique natural scene in rural areas, sufficient water resources), suitable infrastructure (having basic infrastructure such as transportation, roads, electricity, gas and fresh water), tourism facilities (tourism facilities in rural areas such as signs, fountains and tourist resorts,...) and the use of tourism potentials (potential for development of various kinds of tourism, including agricultural tourism, sports tourism, second home tourism, etc.). Among all the respondents, the indexes of availability and natural potentials with the impact coefficients of 28 and 26.8 % ranked first and second. With respect to the ranking of the physical-environmental factors, no significant difference was found between experts of the institutions and professors. However, with respect to impact coefficient of access to the countryside, experts of institutions assigned a weight of 31.9 percent to it, while the professors assigned a weight of 26.5 %. From the perspective of both groups and in general, the use of tourism potentials in rural areas was ranked last.

Table 3. Impact of physical-environmental factors on formation of a rural tourism brand

<table>
<thead>
<tr>
<th>Description</th>
<th>Access</th>
<th>Natural</th>
<th>Infrastructure</th>
<th>Equipment</th>
<th>Property</th>
<th>Total weight</th>
<th>Professors</th>
<th>Experts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access</td>
<td>(1,1,1)</td>
<td>(4,6,8)</td>
<td>(2,4,6)</td>
<td>(4,6,8)</td>
<td>(6,8,10)</td>
<td>0.280</td>
<td>0.265</td>
<td>0.319</td>
</tr>
<tr>
<td>Natural beauties</td>
<td>(1,1,1)</td>
<td>(6,8,10)</td>
<td>(4,6,8)</td>
<td>(6,8,10)</td>
<td>0.268</td>
<td>0.252</td>
<td>0.295</td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
<td>(1,1,1)</td>
<td>(7,9,11)</td>
<td>(4,6,8)</td>
<td>0.214</td>
<td>0.228</td>
<td>0.186</td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td></td>
<td></td>
<td>(1,1,1)</td>
<td>(7,9,11)</td>
<td>0.138</td>
<td>0.155</td>
<td>0.10</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td></td>
<td></td>
<td></td>
<td>(1,1,1)</td>
<td>0.10</td>
<td>0.10</td>
<td>0.10</td>
<td></td>
</tr>
</tbody>
</table>
Finally, of economic, social and physical-environmental factors, according to the respondents, the economic factors with the impact coefficient of 54.6 percent was ranked first, social factors with impact coefficient of 28.8 % was ranked the second, and physical-environmental factors with a impact coefficient of 16.7 % was ranked last. With regard to ranking of physical-environmental factors, no significant differences was found between expert of the institutions and university professors, but with regard to impact coefficient of economic factors in the villages, the experts of institutions assigned a weight of 50 per cent, while the professors assigned a weight of 57.2%. This is also true about the social factors; however, its trend is contrary to economic factors.

**Table 4. Impact of factors affecting the formation of a rural tourism brand**

<table>
<thead>
<tr>
<th>Description</th>
<th>Economic</th>
<th>Social</th>
<th>Physical-environmental</th>
<th>Total weight</th>
<th>Professors</th>
<th>Experts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic</td>
<td>(1,1,1)</td>
<td>(7,9,11)</td>
<td>(2,4,6)</td>
<td>0.546</td>
<td>0.572</td>
<td>0.500</td>
</tr>
<tr>
<td>Social</td>
<td>(1,1,1)</td>
<td>(3,5,7)</td>
<td>(1,1,1)</td>
<td>0.288</td>
<td>0.261</td>
<td>0.333</td>
</tr>
<tr>
<td>Physical-environment</td>
<td></td>
<td></td>
<td></td>
<td>0.167</td>
<td>0.167</td>
<td>0.167</td>
</tr>
</tbody>
</table>

Source: Research findings, 2015.

Results of ranking 14 indexes, using Fuzzy Analytical Hierarchy Process (FAHP) showed that three indexes of ‘availability of specific products in the villages’, ‘presence of entrepreneurs in the villages’ and ‘capital investment in rural areas’, with the impact coefficients of 14.2, 13.6 and 13.4 % respectively ranked first to third. With regard to rankings based on 14 indexes, there was a significant difference between the views of experts from departments and organization and university professors, to the extent that university professors believed that three indexes of ‘availability of specific products in the villages’, ‘presence of entrepreneurs in the villages’ and ‘capital investment in rural areas’, with the impact coefficients of 14.2, 41.1 and 14 % respectively ranked first to third. However, the experts from departments and organization believed that ‘availability of specific product in the countryside’, ‘cultural significance’ and presence of entrepreneurs in the villages’ with the impact coefficients of 14.6, 14.3 and 12.8 % respectively ranked first to third. The availability of tourism facilities and the ‘use of tourism potentials’ in rural areas with the impact coefficients of 2.3 and 1.7 percent, were ranked last and penultimate by experts and university professors.

**Table 5 - Indexes effective in the formation of rural tourism brand**

<table>
<thead>
<tr>
<th>Options</th>
<th>Indicators</th>
<th>Total Weight</th>
<th>Professors</th>
<th>Experts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special products</td>
<td>unique crops, fruits and dairing</td>
<td>0.142</td>
<td>1</td>
<td>0.146</td>
</tr>
<tr>
<td>Entrepreneurship</td>
<td>To have entrepreneurs and rural elites</td>
<td>0.136</td>
<td>2</td>
<td>0.128</td>
</tr>
<tr>
<td>Capital Investment</td>
<td>To have capital investors both resident and non-resident in the villages</td>
<td>0.134</td>
<td>3</td>
<td>0.125</td>
</tr>
<tr>
<td>Employment (type of economic activities)</td>
<td>tourism related service jobs for tourism development in the village</td>
<td>0.079</td>
<td>5</td>
<td>0.091</td>
</tr>
<tr>
<td>Tourism development</td>
<td>High potentials of the area for investment and tourism planning</td>
<td>0.055</td>
<td>8</td>
<td>0.057</td>
</tr>
<tr>
<td>Cultural significance</td>
<td>antiquity, unique and rich rural culture and traditions</td>
<td>0.110</td>
<td>4</td>
<td>0.093</td>
</tr>
</tbody>
</table>
Artistic significance | special crafts having artistic value | 0.074 | 6 | 0.070 | 6 | 0.076 | 5
educated people | trained and educated indigenous people in the village | 0.068 | 7 | 0.065 | 7 | 0.073 | 6
Local participation | cooperation and participation of rural people in activities related to tourism | 0.036 | 11 | 0.033 | 12 | 0.042 | 11
Accessibility | proximity and short distance to Mashhad metropolitan and towns of Torghabeh and Shandiz | 0.047 | 9 | 0.044 | 9 | 0.053 | 7
Natural potentials | beautiful and unique natural scene in rural areas, sufficient water resources | 0.045 | 10 | 0.042 | 10 | 0.049 | 10
Suitable infrastructure | (having basic infrastructure such as transportation, roads, electricity, gas and fresh water) | 0.036 | 11 | 0.038 | 11 | 0.031 | 12
Tourism facilities | Tourism facilities in rural areas such as signs, fountains and tourist resorts... | 0.023 | 12 | 0.026 | 13 | 0.017 | 13
The use of tourism potentials | potential for development of various kinds of tourism, including agricultural tourism, sports tourism, second home tourism, etc. | 0.017 | 13 | 0.017 | 14 | 0.017 | 13

| Sum | 1 | - | 1 | - | 1 | - |

Source: Research findings, 2015.

To identify villages suitable for the formation of a tourism brand in the study area

To identify villages suitable for rural tourism in the study area, with regard to the 14 indexes and its indicators in the villages, a $14 \times 42$ matrix was created and calculated using TOPSIS technique of similarity to the ideal. The results after identifying the positive and negative ideal and measuring the distance to positive ideals in TOPSIS method showed that 11 village have near factor of higher than 50 % to positive ideal, and the villages of Jagharq, Abdreh Olia and Kang respectively with impact coefficients of 80.0, 58.1 and 57.4 % are the most suitable villages for creating a tourism brand in the study area. On the other hand, 31 villages had near factor of less than 50 % to the positive ideal, and among them, the villages of Sirzar, Hassan Abad and house manufacturing factory of Mashhad respectively with the impact coefficients of 11.62, 11.67 and 14.3 had a longer distance from the positive ideal; in other words, they were the least suitable villages for creating a rural tourism brand.

Table 5 – identification of villages suitable for rural tourism brand in the region
<table>
<thead>
<tr>
<th>.</th>
<th>1</th>
<th>0.800136</th>
<th>Mayan Olia</th>
<th>22</th>
<th>0.386504</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olia Abrdeh</td>
<td>2</td>
<td>0.581457</td>
<td>Chelated Ahan</td>
<td>23</td>
<td>0.380292</td>
</tr>
<tr>
<td>Kong</td>
<td>3</td>
<td>0.574246</td>
<td>Farah-Abad</td>
<td>24</td>
<td>0.359236</td>
</tr>
<tr>
<td>Dehbar</td>
<td>4</td>
<td>0.559662</td>
<td>Tajar</td>
<td>25</td>
<td>0.358239</td>
</tr>
<tr>
<td>Gorakhak</td>
<td>5</td>
<td>0.537367</td>
<td>Islam-rud</td>
<td>26</td>
<td>0.356905</td>
</tr>
<tr>
<td>Abdeh Sofla</td>
<td>6</td>
<td>0.529927</td>
<td>Suran</td>
<td>27</td>
<td>0.349223</td>
</tr>
<tr>
<td>Zoshk Olia</td>
<td>7</td>
<td>0.518688</td>
<td>Chah Khaseh</td>
<td>28</td>
<td>0.33795</td>
</tr>
<tr>
<td>Hesar</td>
<td>8</td>
<td>0.518332</td>
<td>Sar-Borj</td>
<td>29</td>
<td>0.337857</td>
</tr>
<tr>
<td>Sarasiab</td>
<td>9</td>
<td>0.512032</td>
<td>Hesar Sorkh</td>
<td>30</td>
<td>0.327053</td>
</tr>
<tr>
<td>Azghad</td>
<td>10</td>
<td>0.508926</td>
<td>Chelateh Abdul</td>
<td>31</td>
<td>0.311574</td>
</tr>
<tr>
<td>Zoshk Village</td>
<td>11</td>
<td>0.508193</td>
<td>Hosein Abad Jaldak</td>
<td>32</td>
<td>0.280889</td>
</tr>
<tr>
<td>Virani</td>
<td>12</td>
<td>0.484197</td>
<td>Fiyani</td>
<td>33</td>
<td>0.251548</td>
</tr>
<tr>
<td>Zoshk Sofla</td>
<td>13</td>
<td>0.475679</td>
<td>Chahshak</td>
<td>34</td>
<td>0.24831</td>
</tr>
<tr>
<td>Safiabad</td>
<td>14</td>
<td>0.466233</td>
<td>Toos Industrial Park</td>
<td>35</td>
<td>0.234512</td>
</tr>
<tr>
<td>Ardameh</td>
<td>15</td>
<td>0.465901</td>
<td>Dehno</td>
<td>36</td>
<td>0.201881</td>
</tr>
<tr>
<td>Nogondar</td>
<td>16</td>
<td>0.442031</td>
<td>Moj</td>
<td>37</td>
<td>0.178637</td>
</tr>
<tr>
<td>Nowchah</td>
<td>17</td>
<td>0.427708</td>
<td>Sham-Ali</td>
<td>38</td>
<td>0.160807</td>
</tr>
<tr>
<td>Mayan Soflah</td>
<td>18</td>
<td>0.411596</td>
<td>Hiteh Zoshk</td>
<td>39</td>
<td>0.160758</td>
</tr>
<tr>
<td>Mogan</td>
<td>19</td>
<td>0.394673</td>
<td>House-manufacturing factory of Mashhad</td>
<td>40</td>
<td>0.143082</td>
</tr>
<tr>
<td>Chelate Ebrahimabad</td>
<td>20</td>
<td>0.390477</td>
<td>Hasanabad</td>
<td>41</td>
<td>0.116756</td>
</tr>
<tr>
<td>Mayan Vosta</td>
<td>21</td>
<td>0.38897</td>
<td>Sirzar</td>
<td>42</td>
<td>0.116206</td>
</tr>
</tbody>
</table>

Source: Research findings, 2015.

**Figure-3** villages suitable for rural tourism brand

(Source: Research findings, 2015.)
CONCLUSION

Today, branding of a tourism destination is one of the most absorbing and controversial topics in the field of tourism marketing. The aim of this study was to identify the factors affecting the rural tourism brand in Iran. If branding is a strategic act and backed by logical thinking and based on target market needs, brand of a commodity or a destination should have functions in line with marketing. Each of these functions are output data of expected activities in marketing and branding. Based on exploratory studies, factors affecting rural tourism brand were in three categories: economic, social and physical-environmental ones among which, according to experts’ views and utilizing Fuzzy Analytical Hierarchy Process (FAHP), economic factors with the impact coefficient of 54.6 % had the maximum impact on recognition of a rural environment as a tourism brand. Among the 14 indexes affecting tourism brand, availability of particular products in a village with the impact coefficient of 14.2 % and presence of entrepreneurs in rural environment with impact coefficient of 13.6 % ranked first and second in affecting the recognition of a village as a tourism brand. As there was no similar study about the identifying the factors affecting the formation of a rural tourism brand, whether in Iran and other countries, it was not possible to compare its results with those of previous studies.

The results showed that Jagharq village, given to its attractions in economic, social and physical-environmental fields has had the minimum distance from the positive ideal in TOPSIS method, and was identified as the most suitable village for creation of rural tourism brand. The economic attractions of Jagharq included crops and fruits in the villages, entrepreneurs in the field of aquaculture, large investment in tourism industry, etc. The social attractions included cultural attractions such as old cemeteries, Shah Abbasi Caravansary, water mills, crafts, like carpet waving, Namad making, hand bags, Doll making, highly educated villagers, etc. The physical-environmental attractions of Jagharq included paved roads, facilities, utilities and basic infrastructure, tourism facilities such as restaurants, hotels, and large number of second-homes.

Finally, to facilitate the process of creating rural tourism brand in the study area, the following guidelines could be helpful:

- To give special attention to certain products of the region, such as crops and fruits (berries, cherries, walnut), dairying, coal, stone and wood works in the villages to create rural tourism brands.
- To give special attention to entrepreneurship in rural areas to create new attractions in rural areas that could make way for development of tourism brand.
- To provide tourism facilities such as restaurants, hotels in the villages of the study area, to attract more tourists and create a rural tourism brand.
- To restore cultural elements and give more attention to the customs that are gradually dying out, which can create new opportunities to create a new rural tourism brand in the region.

REFERENCES:


THE STUDY OF POPULATION ECOLOGY APPROACH TO ORGANIZATION

Alireza Amirkabiri
Department of management, Central Tehran Branch, Islamic Azad University, Tehran, Iran

Meysam Eyvazi
Phd candidate of public administration, Central Tehran Branch, Islamic Azad University, Tehran, Iran
mhrdade@yahoo.com

Mahbobe Haji Mirzaie
Phd candidate of public administration, Central Tehran Branch, Islamic Azad University, Tehran, Iran

Morteza Kheirkhah
Phd candidate of public administration, Central Tehran Branch, Islamic Azad University, Tehran, Iran

ABSTRACT
Since every school of thought wants - to quote Neil Austin Flig (1985) explain the phenomenon organization from your point of view - in this study, we have some interesting discussions about population ecology approach (approach of organizational population environment) on behalf of the elders of this approach is provided with the express criticism on it. In this study, the meaning of ecology and its history, divisions of ecology, environment and natural selection, Relationships with their environment in a particular branch of industry or in a given area, the hardness and stability, factors that organizations containers hard work and organizations cannot easily do transfers resources and principles do not change, Ecological approach to change in organizations and the impact of aging on their failure to adapt to the environment, the fundamental logic approach to the theory of ecology and criticisms that has been discussed and concluded. This paper reviews the theory of ecology of organizations.

Keywords: population ecology, organizational ecology, organizational relations

INTRODUCTION
In recent years a growing interest in the formation, growth and decline has been more of an organization, according to the theory result of these discussions has grown. Therefore, before moving in this direction should look at both macro and micro analysis. Population ecology theory seeks to explain the birth, growth and death through the natural process variation, selection, retention and competition. Hence, we study the population dynamics of the organization with a face that it is a kind of characteristic of this theory. Population ecology or natural selection since 1940, was considered in social systems, but the best definition of it has been presented Hanan and Freeman and Aldrich (1979). Principles of population ecology population and organizations trying to justify why lump of organizational forms remain and others disappear (1).

From 1979 to 1989, 187 organizations listed in Fortune magazine, 500 organizations were excluded from the list and do not exist as independent organizations. Some of them were bought by other organizations and some other organizations Shdand integration. A number also have been bankrupt. Due to removal of these organizations, their inability to adapt to environmental changes and meet the needs of the environment (2).

It requires a dynamic organizational culture appropriate to the environment was turbulent. Instead, new institutions were created that were adapted to the current environment and can meet the specific needs of organizations and overtaking previous kidnapping (2). In theory it is assumed that the
perimeter of a corporate organizational population ecology of power that you can choose from among
a group of organizations competing organizations that best meet the needs of the environment. It may
be concluded that Darwin's theory of survival of the fittest principle of such organizations (3).
Population ecology is a framework for understanding organizational changes based on natural
selection process that is described in the bio-ecology as any in the natural world.

Organizations in various forms with the structure, goals and live their own production or operations.
Successful organizations by setting chosen on the basis of sustainability and environmental protection
raises questions about how come there are also several reasons, and the fact that how arise in the form
of numerous organizations. It is trying to respond to the erupting questions that organizations around
the world look at the similarities as well as the biodiversity of nature in the world. This diversity can
be explained according to the theory of evolution. This theory has been around since 1975 as a critical
theory in the organization. Also, this theory also states that the decision-making managers aware of
the environment is based on natural selection (1).

Dependence on the density of the population (the population) to be considered as limiting the amount
of the environmental source. The population is growing naturally or are entering a new or growing
organizations. However, this growth limited resources. On the other hand, competition is a dynamic
process. Congestion is increasing industry continues to destroy the legitimacy of competitive
pressures and reduce the rate of installation failure rate. Population density has been shown by many
studies of the relationship between the company lives with possibility (3).

The researchers also found that using data based on the empirical study of published research that “If
a society already has with community organizations or communities are more entrepreneurial
behavior of community members representing different behavior is manifested by the theory of
population ecology” and, also, similarly, in this context, the information shown represents the
community easier and Entrepreneurship has been more than others in the birth rate.

STRUCTURAL STILLNESS
The concept ecology concept structural rigidity and stagnation or inactivity. The “hardness and
stability” for various reasons lose the ability to change and move to a living organism (organization),
i.e., for "rigid" states that "motionless" stay. This is similar to a rigidity and hardness that occur in the
human body. All the various organs in the human body for reasons such as arthritis and
atherosclerosis lose their ability to move and flex. As a result, unable to respond to the changing
requirements of environmental damage. This can sometimes be the end of its life living organism.
Business organizations also arise for various reasons an Event “stiffness and hardness” (5).

Organizers are born with a certain shape and unable to change its constitution to deal with
environmental threats. Structural stasis stems from several factors, internal and external pressure.
Internal factors include:

1. The organization's investment in the plant, and equipment and dedicated professional staff can
easily transfer to other duties and functions.
2. mkmakers in organizations do not get comprehensive information about its internal
activities or environmental requirements, the sub-unit organizations have faced.
3. There is a strong political constraint against change, because change may reduce the power of
organized groups and increase the power of other groups. This may convince the opposition
of senior decision makers who prefer to rest the problems caused by the change.
4. Finally, organizations are faced with limitations due to his past. Once agreed standards and
procedures for assigning tasks and authority and become the norm, much reduced cost to
change them (5).

DEMOGRAPHIC CONSTRAINTS
definition of fit is a problem (environmental conservation is explained on the basis of fitness, but
fitness is defined as survival). At the core of organizational population ecology theory was overstated
that we cannot predict survival based on the independent evaluation of environmental suitability.
It is usually used for those populations that are very competitive organization. All organizational
population not fit the definition. This definition does not fit in populations that are faced with barriers
to entry or multiple output, such as high start-up costs (e.g., production) or legal regulations (for example pharmaceuticals). Also, environments that are dominated by a few large organizations, such as large computer manufacturing industry, institutional population are unsuitable for population studies (3).

EXTERNAL PRESSURE TO BRING THE STATIONARY TO ORGANIZATION
1. legal and financial obstacles in the way of entering the market and there are many of them spend.
2. information about the environment outside the organization may be costly.
3. Organizational rationality requires that an organization may adapt itself to a certain way with the environment (2).

STRATEGIES FOR SURVIVAL
There is another principle in the demographics of organizations trying to survive or compete. Organizations and organizational populations are often in competition with each other for resources, and the organization attempts to somehow continue to exist. In terms of demographics, organization and due to the efforts of organizations do to survive, strategies should be divided into two categories: public and private. Organizations that have the resources or extensive areas, i.e., those who can offer a very wide variety of products and services to market, fall in public organizations. Population ecology offers a different perspective to the managers of organizations (see external to the organization) than is normally used. Demography is useful perspective to communicate with members of the government or regulators and supervisors that they naturally look is defined by the level of environmental analysis (due to the large number of organizations affected by their policies) (4).

OPTIMIZATION AND PROCEDURAL LAW IN ECOLOGY APPROACH
Another concept that arises in connection with optimized ecological approach. In this approach, is the optimizer (Optimizer). Environment (nature) to optimize their right to make a choice (choice) among the units that are in his heart i.e., the environment, selects and removes some organizations in the amount proportionate to the objective features and their attributes. Finally, the main concept is the idea of “uniformity” that can be termed it “the shape or consistency”. Uniformity or consistency in the sense that there is a type of organism according to the type and characteristics of the environment (compatible) and "uniform" with these requirements. Environment that eliminates the organism does not adapt to it, and select those that will adapt and provides the possibility of life for them. As a result, there are common features among businesses that life becomes possible. Businesses have started to uniform up. Diversity of organisms that event in terms of diversity of environmental conditions (5).

DEMOGRAPHIC PERSPECTIVE CONSTRAINTS
There are also restrictions on the use of demographic perspective. One limitation is defined as the proportion of a problem. This problem also exists in Darwin’s theory. (environmental conservation is explained on the basis of fitness, but fitness is defined as survival). At the core of organizational population ecology theory was overstated that we cannot predict survival based on the independent evaluation of environmental suitability. Survival time know to see it (1).

ECOLOGY INTER-ORGANIZATIONAL IN USE
Ecology is the study of the relationship between the organization and how people like (identical) and that includes communities are heterogeneous, their mutual relationship with each other. And how they have adapted themselves collectively and collectively with the environment. Organizational society is a group of the population and individuals that are determined by the relationship of ecology from the coexistence of two groups two different groups together and living together. Such as units of the same tasks. And includes potential competition between people who have a reciprocal relationship. The competition between individuals depends on the degree of similarity and feed people who are involved. Community people may be limited to a geographical area (e.g., Silicon Valley) are limited
or economic system can include national, regional, or global are linked to the core and technical center or organization (for example, groups telecommunications). So, studying the social dynamics needs to analyze the processes that underpin the creation and transfer of individuals and populations organization, and thereby, in general, affect the social stability. Assessment and review of the literature to define the sociodemographic, as component (element) is assumed to be the same key communities and distinct organizational forms. Although there is considerable contradiction of ideas about how corporate social and organizational forms to be defined. Multiple definitions have discussed different approaches to classification according to the organization in the literature review. In this study, the organizational ecologists have defined population this way: Categories of actors in understanding the discontinuities in the general sense of social identity. For example, ecologists and artists are dealing with industrial communities with different categories of newspapers (daily vs. weekly) (4).

CONCLUSION
At the present time, which is an indicator of the dynamics of communities, there is a need to strengthen the dynamic look. Hence, the ecosystem approach is an organization look at the underlying ecological movement in the course of evolution excellence and organizational relationships. Growth in a competitive environment causes increased likelihood of survival and causes of the changing conditions of the environment.

REFERENCES
STRATEGIC PLANNING OF ORGANIZING KERMAN CITY DISTRICT TWO WITH WALKABLE APPROACH

Mr. Amirali Mohseni
M.A Student in Urban Planning, Kerman Branch, Islamic Azad University, Kerman, Iran
rmohseni89@gmail.com

Dr. Nima Jahanbin
Assistant professor, Faculty of Architecture, Art and Planning Kerman Branch, Islamic Azad University.
jahanbin.nima@gmail.com

ABSTRACT
In Iran, transportation especially using private cars has been rapidly increased and a major part of streets is occupied by automobiles and each day their number is raising and streets have turned to a place special to automobiles passage and the culture of driving has dominated walkable and traditional culture. Kerman city in Iran has had a noble and classic culture but today it is rapidly moving towards industrialization and getting away from human scale. Unfortunately, at the present time Kerman city doesn’t have walking axle and walkable culture has decreased. In this study, we seek a way to promote walkable culture with walkable approach. On this same basis, primary information was collected by library-documentary method and then by field survey and preparing required data, sidewalk routes of Kerman city district 2 were analyzed and the following results were obtained with the aid of AHP SWOT model. Regarding the evaluation of external and internal factors and also SWOT model, the final score relating to internal factor evaluation is equal to 2.986 and final score of external factors evaluation is 3.257. The situation of acquired scores from matrixes of evaluating internal and external factors is in the first quarter (aggressive strategy) as follows. So, regarding the above explanations, the dominant strategy in walkability of Kerman city district 2 is of aggressive type.

Keywords: AHP, SWOT, strategic planning, Kerman city

INTRODUCTION
By emergence of modernistic urban planning, the emphasis on cities development for facilitating cars movement led to insignificance of suitable urban spaces (including square and street) for walking and the street as an urban space and the place of social interactions was less noticed (Jepson & Edward, 2010). Urban spaces have formed for supplying social and mental needs (Berke et.al, 2010). All citizens in their daily activities at least walk a part of their route and pedestrian needs are ignored in most urban spaces (Talen & Koschinsky, 2012). Many present planning methods especially in the third world don’t meet human physical, mental and spiritual needs and have ignored human scale and position. Therefore, regarding that many current problems are due to car oriented views instead of human oriented attitudes in cities, changing the planning attitude towards a human oriented and walkable city is essential.

Among other problems of third world urban society is low social interactions in the society daily life that walkability plans a principled collection that the capability of pedestrian movement and acceptance of neighboring units and creating a friendly environment for passengers are among its important points. Of course, the aim is not omitting automobile from everyday life, but it is tried that pedestrians despite presence of cars in the city feel safe and secure and satisfied. Necessarily, people close contact and affront with each other is quite noticed in walkability. On the other hand, existence of cars pollution, traffic, lack of welfare and safety feeling have been created due to increasing usage
of cars in everyday life that in walkability by exploring effective environmental features, this has been realized that physical, traffic and data network features have a considerable role in walking frequency and non-use of cars and the quarter environmental quality and its social dimensions have a significant role in walking. Also, lack of suitable places for social interactions like past has caused reduction of attachment feeling and social interactions and increasing usage of cars and pedestrian- orienting and pavement have been considered insignificant (Bentli et al., 2013:7).

On the other hand, 25% of city area is constituted from ways and unfortunately a major portion of this path has been occupied by cars. Especially, in undeveloped countries this matter is clearly observed. The main reason of this matter is lack of accurate planning, high costs and inattention to walking culture.

In Iran, transportation especially using private cars has rapidly increased and a major part of streets is occupied by cars and everyday their number is raising and streets are allocated to a place special to cars passage and driving culture has dominated walking and traditional culture. Kerman is one of big cities of Iran which has had a noble and ancient culture in the past but today it is rapidly moving to industrialization and getting away from human scale. Unfortunately, at the present time Kerman doesn’t have a pedestrian axle and walkable culture has decreased. In other words, inattention to pavements and lack of pedestrian axle in Kerman has caused reduction of suitable pavements and lack of pedestrian axles has caused reduction of social interactions of inhabitants. On this basis, authors of this article seek a way for promoting walkable culture with walkability approach.

**IMPLICATION AND BACKGROUND OF WALKABILITY**

Walkability includes creating streets or spaces free from riding traffic. London road in Norwich was the first street in England which was closed on traffic and became walkable in 1957. When in 1971, the first public place in Sidney of Austria was assigned to mere usage of passengers, Leoport (the local politician responsible for this issue) who called himself as minister of passengers, always emphasized on telling this positive aspect that the street was opened for passengers, not that it was closed on cars traffic (Cowan, 2852005).

As SpeiRegen, theorist of 1960s, considers many of without car city streets dead and spiritless, mentions that if cars interfere with passengers' free footwork, it will be problematic and if cars move with low speed and passing traffic reduces to its lowest possible level, in crowded urban centers both could be allowed to be present. But, now extreme intersections have been designed in urban crowded centers so that maximum car traffic flows to be supplied. As a result, this matter compels that passenger for long and annoying waiting. SpeiRegen considers the solution of this problem in designing pedestrian safe islands, reducing traffic speed, increasing pedestrian passages and facilitating their use (SpeiRegen, 1960, 72).

In the field of attention to walks and their role in cities, as yet many studies have been performed by various scholars in the world and in Iran that the results of some of them are as follows:

<table>
<thead>
<tr>
<th>item</th>
<th>scholar name</th>
<th>research year</th>
<th>the study results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Morris</td>
<td>1995</td>
<td>Because of streets crowd and continuous contacts of cars and passengers, wagons passage inside city during day hours except governmental wagons was prevented.</td>
</tr>
<tr>
<td>2</td>
<td>Morris</td>
<td>1995</td>
<td>in 1987, London considered some preparations for carts traffic, for suitable carts and wagons quartering besides people</td>
</tr>
</tbody>
</table>

Submit Date: 05.04.2016, Acceptance Date: 15.07.2016, DOI NO: 10.7456/1060AGSE/086
Copyright © The Turkish Online Journal of Design, Art and Communication
| 3 | Almostad American planner and architecture | 1958 | designing of New York central park with the aim of separating passengers from cars |
| 4 | Francis Tybaldz |  | Public eras as the most important part of cities and urban environment that in such eras the greatest contact and relation and interaction occur between men. |
| 5 | England conference | 2000 | the first conference by Walk21 group with the slogan of towards walking in 21st century |
| 6 | Austria conference | 2001 | 2nd conference by Walk21 with the slogan of towards livable cities |
| 7 | Spain conference | 2002 | 3rd conference by Walk 21 group with slogan of equality and environment |
| 8 | American conference | 2003 | 4th conference by Walk 21 group with the slogan of health |
| 9 | Denmark conference | 2004 | 5th conference by Walk 21 with slogan of cities for people |
| 10 | Swiss conference | 2005 | 6th conference by Walk 21 with slogan of environments with walking capability |
| 11 | Melbourne conference | 2006 | 7th conference by Walk21 with slogan of daily walking culture |
| 12 | Canada conference | 2007 | 8th conference by Walk 21 with slogan of passengers priority |
| 13 | Moazen et.al | 2006 | introduced 4 indexes of walkability in quarters |
| 14 | Ganizade, Mohammadali | 2001 | measured for organizing and designing passenger movement in urban quarter of Ekhtiariieh Tehran |
| 15 | Habibi, Mitra | 2003 | examined and analyzed significance of walks and their role in urban central space of Tehran |
| 16 | Rafian et.al | 2005 | In an article under the title of urban spaces: emphasizes on qualitative revising and evaluating and revising necessity in public spaces especially in modern urbanism trends. the results obtained from this study is that promotion of urban public spaces quality is necessary for creating social capital and enforcement of a society |

**Table 2-** Sample of walks experiences inside Iran
### SITUATION OF STUDY RANGE
Kerman city extent is more than 74.3 km². Kerman city population has been 384991 persons according to census 1996 and in census performed in 1996, this city population has reached 496684 persons that the population growth in this year has been 2.81% and in 2011 this city population has evaluated 600000 persons. Generally, the residential density of Kerman city is low and it is almost half of the standard density of other cities of Iran (Naghdinasab, 2011).
THE RESEARCH METHODOLOGY
The present study in respect of objective is among applied studies and in regard of research method nature and its survey is a descriptive-analytical study. In this research, first regarding walkability indexes in walkability approach, pavements and those axles which have walkable capability were evaluated and then regarding criteria, locating was performed for finding the best axle using AHP method. For achieving the research objectives, library methods were used for recognizing components and criteria (physical, social, economic and environmental) effective on walkability planning, then using field studies, qualitative and quantitative evaluation of available pavements and axles was done in district 2 of Kerman city. For data analysis and providing strategies of improving walkability SWOT analytical matrix was utilized. For this purpose, a list of strengths, weaknesses, opportunities and threats were identified and analyzed. The information relating to strengths, weaknesses, opportunities and threats was prepared from field perceptions in the mentioned region.
and after that by adjusting internal and external strategic factors which are the base of strategies codification, SWOT strategic matrix was extracted. The instrument used for creating database and producing respective maps is GIS geographic information system and for weighing criteria EXPORT CHOICE software was used.

MAIN DISCUSSION:
In this section of study, walking strategies were codified and desirability and limitations of district 2 of Kerman was analyzed using SWOT model which is explained here.

- Codifying walkability strategies of Kerman district 2

In framework of codifying strategies, the evaluation stage includes instruments which rely on information obtained from previous stages (evaluating internal and external environment) and external opportunities and threats are compared with internal strengths and weaknesses. The process of comparing internal and external factors plays a very significant and effective role. For this purpose, internal and external factors in matrix of threats, opportunities, strengths and weaknesses in each stage of two factors are compared with each other and the goal is not to recognize the best strategy, but it is to determine applicable strategies. Therefore, all strategies provided in this comparison, won't be selected and executed (table 3).

Table 3. SWOT the status dominated on walkability in Kerman district 2

<table>
<thead>
<tr>
<th>external conditions</th>
<th>internal conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>opportunities</td>
<td>threats</td>
</tr>
<tr>
<td>the possibility of reinforcing presence and walking</td>
<td>lack of creating spaces proportionate to performance</td>
</tr>
<tr>
<td>continuity of walking routes in short distances and those spaces that motor vehicles can't pass them</td>
<td>ignoring passenger safety and its non-priority in traffic</td>
</tr>
<tr>
<td>reduction of activity and social relations and people isolation in limited space</td>
<td>present potential for creating and locating identity making signs</td>
</tr>
<tr>
<td>great volume of people referral and potential opportunity for purchase, activity and walking</td>
<td>non-definition of street as commercial-recreational – tourism axle in the range level</td>
</tr>
<tr>
<td>possibility of tradesmen participation in reconstruction plans and changing to walks due to walkability history</td>
<td>lack of guiding top plan</td>
</tr>
<tr>
<td>the possibility of creating massive space and administering special</td>
<td>lack of welfare and security for clients</td>
</tr>
<tr>
<td>Problem</td>
<td>Solution</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Periodical ceremonies relating to culture and tradition in case of creating special walk space</td>
<td>for turning to walk and public use</td>
</tr>
<tr>
<td>High volume of people traffic causes creation of a live and dynamic urban environment during day and night</td>
<td>noise pollution due to car presence</td>
</tr>
<tr>
<td>Existence of potentials for creating walk network and cycling</td>
<td>suitable slope for walking and limited time of use activity</td>
</tr>
<tr>
<td>The possibility to develop various uses and near to standards for using facilities for passengers as long as presence of other facilities for desirability of the environment</td>
<td>limitation of creating open and public spaces due to the land high value</td>
</tr>
<tr>
<td>Reduction of air pollution and reduction of fossil energies consumption with people encouragement for walking and increasing public health through it</td>
<td>lack of parking lot and problems due to it for people and tradesmen</td>
</tr>
<tr>
<td>Existence of potential walkability in the city especially in center of city as one of relocation system axles of easy access to the environment and competition with suburb purchase centers</td>
<td>physical weakness for creating suitable social relations</td>
</tr>
<tr>
<td>The possibility to revive quarters and social life</td>
<td>referring to various groups of people and widespread quantitative presence of citizens</td>
</tr>
<tr>
<td>The possibility to increase economic efficiency</td>
<td>lack of urban furniture and lack of urban space</td>
</tr>
<tr>
<td>Weakness of driving culture and using cars with single passenger by most people</td>
<td>sever lack of urban open space</td>
</tr>
<tr>
<td>Weakness of physical obstacles in pavements of main roads</td>
<td>existence of population attractive factors in the span</td>
</tr>
<tr>
<td>Lack of regions special to passenger quartering</td>
<td>existence of population attractive factors in the span</td>
</tr>
<tr>
<td>Lack of suitable lighting</td>
<td>lack of accurate and easy use of environment and uses due to traffic problems</td>
</tr>
</tbody>
</table>
reinforcement of local movement network  | unfavorable quality of some public transportation systems has caused people dissatisfaction and their usage is reduced  | implementation of some plans of managing traffic like making the streets one-sided  | lack of suitable sanitary, security, parking and residential facilities appropriate to the span capacity

revival of urban spaces through walkability for creating massive memories  | lack of suitable culture among drivers for observing passengers and cyclists rights  |  |  

lack of much height difference in physical texture  | lack of bridges and grade separations for passengers passing in the span  | the possibility of creating green spaces in the span and making green spaces and parks  | existence of non-identity urban spirit at the end of the day and shutting of walks

existence of required preparations for beautification and preserving the available and new-made pavements  | time shortage and haste culture in the present era  |  |  

Source: the author, based on field and documentary studies, 2016

Walking strategies of Kerman district 2, regarding various available structures, were codified during 6 stages using matrix of strengths, weaknesses, opportunities and threats. This matrix is one of very important instruments in the codification process of strategy by which the information of matrixes evaluating internal and external factors are compared with each other. By comparing opportunities and weaknesses, opportunity – threat strategies (SO) are obtained. In this same order, by comparing strengths and threats , strength- threat strategies ( ST), by comparing strengths and opportunities, weakness- opportunity strategies ( WO) and by comparing weaknesses and threats, weakness- threat strategies ( WT) are obtained. In this matrix, in each stage, two factors are compared with each other and the goal is not to recognize the best strategy, but the aim is to determine applicable strategies. After completion of matrix of strengths, weaknesses, opportunities and threats the following strategies were codified for walking in Kerman distract 2.

**Strength- opportunity strategies (SO)**

First strategy (SO1): The possibility to reinforce presence and walking through reinforcing suitable infrastructures in the span especially in the field of traffic, green space, etc. (S1, S4, O1)

Second strategy (SO2): Desirability in the environment with relative adaptability to uses and variety in it for encouraging various groups of people referral and widespread quantitative presence of citizens (S15, S7, S5, O4, O9).

Third strategy (SO3): The possibility of creating mass space and executing special periodical ceremony due to potential cultural acceptance of walking significance and population attractive people in the span (S2,S11,O6).

Fourth strategy (SO4): Traffic management in crowd axles and encouraging people for walking and increasing public health and vivacity in the span through it (S14, O7, S13, O10, O11).
Sixth strategy (SO6): More participation of local societies in the plans of developing walking and the possibility of increasing economic and environmental efficiency through it (S9, O5, O12).

Seventh strategy (SO7): The possibility of quarter's massive revival with reinforcing local movement network and creating suitable and standard local access (S8, S6, O14, O12).

Eighth strategy (SO8): Assigning the span new roles such as tourism function regarding historical capabilities and plans of making walks (S1, O17, O2).

**strength-threat strategies (ST)**

Strategy 1: Creating required infrastructures for achieving the span walkability and reduction of pollutions due to in-city traffic (T7, S6, S13, S14).

Strategy 2: Necessity of preparing traffic plan for the span and also performing traffic studies for specifying passages with high attraction of travel for designating that passages to walking (S11, S7, T12, T5, T14).

Strategy 3: Cultural institutionalization of walking significance and rights of pedestrians by creating diverse programs in the span (T2, T15, S2).

Strategy 4: Creating walking spaces in the span regarding existence of suitable conditions in it and predicting parking spaces with quartering limitation in the span (T9, T8, S4, S6).

Strategy 5: Creating suitable walking spaces regarding the conditions suitable for its creation and providing required instructions for citizens for promoting walking and cycling between people for reducing traffic in the city center and increasing people health (T17, T13, S8, S12, S14).

**Opportunity – weakness strategies (WO)**

Strategy 1: Widening pavement and creating cohesion in the span level and predicting people different needs (elderly, children and people with disability) (O8, O4, O1, W4, W10, W11)

Strategy 2: Creating required conditions for reducing conflicts and social inconsistencies inside the span (W2, W5, W12, O9, O12, and O15).

Strategy 3: Creating pause spaces and spaces with identity for increasing social interactions (O6, O3, W15).

Strategy 4: Existence of required preparations for beautification of pavements and obviating required shortages for implementing the span ranges (W1, W6, W14, O17, O11).

Strategy 5: Reinforcing walking network through creating landscape and making suitable furniture for various ages and social classes for encouraging walking (O16, O14, W3, W8).

**Weakness-threat strategies (WT)**

Strategy 1: Creating suitable and standard walkable infrastructures proportionate to the span conditions (W6, W1, T9, T16, W14, W11, W10).

Strategy 2: Creating suitable bed for social relations by physical reinforcement of the span (T10, W3, W8).

Strategy 3: Creating night life uses in the span and encouraging walking though it (W12, W13, W7, T3, T2, T1).

Strategy 4: Creating safety and welfare for the society vulnerable people especially those with disability (T6, T13, W4).
Strategy 5: Creating walkability spaces in the span and creating culture appropriate to drivers for observing rights of passengers and cyclists (T17, T15, T12, W15).

Strategy 6: Creating open urban spaces through encouraging participation of the span inhabitants for creating suitable spans of walkability (T8, T11, W9).

Strategy 7: Preparation and implementing plans of commercial, recreational and tourism axe in the span level for encouraging walkability (T4, T5, W2, W6).

SELECTING ACCEPTABLE STRATEGIES OF WALKING IN KERMAN DISTRICT 2
After codifying strategies by comparing internal and external factors in the matrix of strengths, weaknesses, opportunities and threats (SWOT), acceptable strategies are selected among these strategies. The situation of Kerman district 2 in the internal and external matrix determines acceptable strategies in walking. In case of locating in the first quarter of this matrix, aggressive-competitive strategies (SO) are used. In case of locating in the second quarter, revising strategies (WO), when locating in the third quarter, variety strategies (ST) and in case of locating in the fourth quarter, defensive strategies (WT) are used.

Table 4. SWOT matrix

<table>
<thead>
<tr>
<th>internal – external factors</th>
<th>strengths (S)</th>
<th>weaknesses(W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunities(O)</td>
<td>Aggressive-competitive strategies (SO)</td>
<td>Revising strategies (WO)</td>
</tr>
<tr>
<td>Threats(T)</td>
<td>Variety strategies (SO)</td>
<td>Defensive strategies (WT)</td>
</tr>
</tbody>
</table>

Source: David, 2005:369

ACCEPTABLE STRATEGIES OF WALKING IN KERMAN DISTRICT 2
Acceptable strategies of walking in Kerman district 2, regarding the placement in the first quarter of internal and external matrix is aggressive strategies. For this reason, in the present conditions of this district internal development, SO strategies are emphasized and walking strategies of Kerman city district 2 regarding the considered structures is tending to the direction that using selected strategies, its various structures could reach a proper position in the city and district level besides realization of internal development in this district. This matrix is used for determining the span general status in strategic respect. This matrix has four main sockets. Surveys before preparing internal and external matrix provide the possibility of predicting the expected impacts of strategic decisions on the span. Internal and external matrix is divided to 4 major regions and for each of them various strategies are used. Regarding the performed calculations in internal and external evaluating matrix and numbers obtained from this matrix, two calculated numbers meeting and its establishment in each of four regions of acceptable strategies is used for walking in Kerman district 2.

- Priority of acceptable strategies of walking in Kerman city district 2
Decision making about acceptable walking strategies in Kerman city district 2 is performed using scientific analysis and intuitional judgment. In the previous stage by comparing internal and external factors, acceptable strategies were identified. In this stage, decisions are made about acceptable strategies. Attraction of each strategy is specified using qualitative strategic planning matrix and strategies with high attraction were selected as emphasized and prior strategies of walking in the district.

For determining priority of acceptable walking strategies in Kerman city region 2, we first form qualitative strategic planning matrix (QSPM). This matrix is used for determining the rate of attraction of codified strategies. Using this matrix could objectively specify various strategies which are among the best strategies. In the next stage, each internal and external factor which has a major
role in Kerman city district 2 walking, a factor is given regarding their significance and they are placed in factors column. In the next stage, the attraction score of acceptable strategies is determined. Attraction scores are numerical rates which show attraction of each strategy in each series of strategies. For determining attraction score, internal and external factors which have a major role in Kerman city district 2 walking are examined and then this question is raised about each of them: does this factor have a major role in selection process of strategies? If the answer to this question is yes, then regarding these key factors, strategies are compared with each other and based on attraction score, a strategy relative significance comparing other strategies (regarding the discussed factor) is specified.

The attraction score is in this form: 1- without attraction, 2= somewhat attractive, 3= with reasonable attraction and 4= very attractive. If the answer to the raised question is no, it indicates that in the process of selecting strategies this factor has no important role in Kerman city district 2 that in this case, attraction score shouldn’t be given to this factor. The final score of attraction shows which strategy has the highest attraction. Finally, based on final score of attraction of Kerman city district 2 walking, priority of each strategy is determined.

**Table 5. qualitative planning matrix (QSPM) – comparisons of internal matrix**

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<th>TAS 6</th>
<th>TAS 5</th>
<th>TAS 4</th>
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Source: author calculations

**Table 6.** Qualitative planning matrix (QPM) – external matrix comparisons

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2092
Based on performed calculations through QSPM matrix, total attraction final score of each strategy in Kerman city district 2 walking is as follows:

Table 7. Final score of strategies attraction in Kerman city district 2 walking

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Priority</th>
<th>Total Internal Factors</th>
<th>Total External Factors</th>
<th>Strategic Priority</th>
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<td>SOSTAS 1</td>
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<td>3.481</td>
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<td>2.612</td>
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</table>

Source: author calculations, 2016

Regarding the performed calculations and matrix outputs (QSPM), determining priority of Kerman city district 2 walking strategies could be explained as follows:

Table 8. Determining priority of Kerman city district 2 walking strategies

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<tr>
<th>Strategy</th>
<th>Final Attraction Score</th>
<th>Strategy Priority</th>
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Source: author calculations, 2016

Submit Date: 05.04.2016, Acceptance Date: 15.07.2016, DOI NO: 10.7456/1060AGSE/086
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<th>SO</th>
<th>Description</th>
<th>Score</th>
<th>Rank</th>
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<td>SO-1</td>
<td>The possibility of reinforcing presence and walking through reinforcing suitable infrastructures in the span especially in the field of traffic, green space, etc.</td>
<td>3.865</td>
<td>second</td>
</tr>
<tr>
<td>SO-2</td>
<td>Desirability in the environment with relative adaptability to uses and variety in it for encouraging various groups of people referral and widespread quantitative presence of citizens</td>
<td>3.809</td>
<td>Third</td>
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<tr>
<td>SO-3</td>
<td>The possibility of creating massive space and administering special periodical ceremonies relating to culture and tradition in case of creating special walk space</td>
<td>4.1025</td>
<td>first</td>
</tr>
<tr>
<td>SO-4</td>
<td>Traffic management in crowd axles and encouraging people for walking and increasing public health and vivacity in the span through it</td>
<td>3.379</td>
<td>fifth</td>
</tr>
<tr>
<td>SO-5</td>
<td>Reinforcing bicycle path and creating bicycle parking lot in given distances regarding safe slope and lack of certain physical obstacles</td>
<td>2.612</td>
<td>eighth</td>
</tr>
<tr>
<td>SO-6</td>
<td>More participation of local societies in the plans of developing walking and the possibility of increasing economic and environmental efficiency through it</td>
<td>3.548</td>
<td>fourth</td>
</tr>
<tr>
<td>SO-7</td>
<td>The possibility of quarters massive revival with reinforcing local movement network and creating suitable and standard local access</td>
<td>2.879</td>
<td>seventh</td>
</tr>
<tr>
<td>SO-8</td>
<td>Assigning the span new roles such as tourism function regarding historical capabilities and plans of making walks</td>
<td>3.112</td>
<td>sixth</td>
</tr>
</tbody>
</table>

Source: author calculations, 2016

CONCLUSION:
Based on matrix of evaluation internal and external factors and also SWOT model, the final score relating to evaluating internal factors is equal to 2.986 and the final score of evaluating external factors is equal to 3.257. Regarding that the determined strategies type is determined according to final scores extracted from matrix of evaluating internal and external factors, according to the following figure, the fourfold strategies are as follows based on final scores:

Figure 3. The position of acceptable strategies based on final score of internal and external factors
On the other hand, as it was also pointed out in chapter 4 (figure 1-5), the situation of obtained scores from matrices of evaluating internal and external factors is in the first quarter (aggressive strategy). So, regarding the above explanations, the dominant strategy in walkability of Kerman city district 2 is of aggressive type.

REFERENCES
Kacper:Blggosinksi:Justin:Helen:sf parkletmodular:1-90
Jessica:Arnett: Impakt Studdy:Great street project:(2011)
INVESTIGATION OF AUDIENCE VIEWING ANGLE IN THE COLLECTION OF PROPOSED SECTION OF THE 3RD TEHRAN MURAL PAINTING BIENNAL

Yousef Rajabi
MA Students, Field of Visual Communications, Faculty of Engineering, West Tehran Branch, Islamic Azad University, Iran
Yousef_r2ka@yahoo.com

Dr. Seyed Nezamoddin Emamifar
Assistant Professor, Faculty of Arts, Shahed University, Iran
N_emamifar@yahoo.com

ABSTRACT
Mural painting as one of the most influential sectors of public art, in the level of today's cities with different objectives addressed in the stylized visual disturbances in urban areas which can have a significant effect on activation and dynamics of these spaces. Mural painting in each of the three fields (vision, reading, distinct) interact differently with environment and audience and led to the emergence of the identity of its concept suited to each, as among the features of a successful mural, relation to the environment and the audience, the need for careful examination of the field of view and reading is very important. Research method was based on a descriptive and analytical nature and data collection method is used in combination (library, field and internet). The population of 16 collection of proposed section of the 3RD Tehran Mural Painting Biennial. Sampling method is in the form of non-random (optional) and the number of sample 1 work and data analysis information method is also qualitatively. The purpose of this paper is to investigate the audience viewing angle in the collection of proposed section of the 3RD Tehran Mural Painting Biennial.

Keywords: witnesses of city, mural painting, mural, Shahid, audience viewing angle

INTRODUCTION
Urban mural painting was an integral part of the urban identity and is considered to be one of the most important factors in creating a good atmosphere in the urban landscape in recent decades. The urban growing trend leads to the creation of urban spaces and urban landscape and hence according to urban aesthetics and create a favorable environment will play an important role in mind and thought and lifestyle of citizens. Mural painting refers to any image that is created with a specific purpose and informed on the wall. But urban mural painting has minor and specific concept. Studied mural painting, deals such as mural painting with subject of holy defense and the place of martyrdom and examines the audience viewing angle to the proposed works.

About Biennial
The 3RD National Mural Painting Biennial with a focus on subjects of Quran, chants and Islamic traditions, events in the life of Imam Khomeini and the Supreme Leader and also the memory of veterans including scenes of heroism of the martyrs and their comrades, this allowed artists to once again serve this country with the memory of Imam and martyrs from the filter of their mind, host high values of the Islamic Revolution. In the cultural context of our country need to be attractive and understandable for the public urban mural painting and Islamic and Iranian values to be reminded. This requires the establishment of a large and influential festivals. Specialized festivals where talented artists have exhibited their innovation and ideas in the form of a great artistic event.
Attention to the martyrs and its relationship with urban mural painting

"The art of mural painting in different civilizations throughout history, ethnic origin, culture and values of the nation image of the chest walls. These works were created under the influence of events of different periods and with the benefit of icons and symbols of the culture of each region." (Youzbashi and Ansari, 2015: 382) Mural painting had the opportunity in targeted human possession to the consolidation of its ideals, constantly throughout the history of life and the environment, to employ this art such as mass media and thereby remind their heroes and myths of their society. (Kafshchian Moghadam, 2015: 135) When drawing of martyrs drawn on the wall, in such a way interact with the environment, which lead the viewer to the concepts of value. Perhaps the most important goals of mural painting in cities addition to its media aspect, undoubtedly is beauty of work and environment. In this regard, it is necessary to the internal structure of work is the benefit of aesthetic features and beauty effects in the interaction with the environment. In addition, the role of the audience in the meantime should not be forgotten. Although beauty is a relative thing, but as public works relies on the collective memories (ethnic, local, national, religious, etc.), mural painting works of martyrs also is subscription-based conceptual and aesthetic of the collective memories that effect must be attended to implement them. Society with the discovery of new patterns in the form of national heroes, the desire to respect and honor them and to have their mythic archetypes in new icon in their living environment. (Kafshchian Moghadam, 2015: 136)

The purpose of the mural painting of Martyrs in urban areas

Attending to the status of martyr and honoring it's no secret, especially because we live in an Islamic society. With the passage of time and the victory of the Islamic Revolution and subsequent to the end of the war, revolutionary mural paintings with various themes and concepts revolving around the martyr was considered more and because people and diversity executive formats mural painting in order to be able to have more effect than other visual arts. Islamic Revolution was still new that in September 1980 the Iraqi army invaded Iranian territory. War overshadowed all spheres of political, cultural and social areas of life in Iran and the new system. The mural, which was also in the midst of the arts in the service of war. (Salari, 2011: 331) Values defined in the new system and the necessities of war propaganda causing visual artists explain their situation towards them. The presence of academic artists in mural painting of this period resulted in a variety of visual expression of this work. Mural painting during the war, with all its shortcomings were the values that fit in the right direction can founded art commensurate with the Islamic Republic. (Kafshchian Moghadam and Royan, 2008: 107) These murals at the beginning of the graffiti and the image of the religious and intellectual figures of the Islamic Revolution and sometimes with simple graphics but effective such as the rejection of bloody hands to indicate innocence, is shown. (Ali Mohammadi Ardakani, 2008: 474) In fact, people used whatever means during the Islamic Revolution in order to explain this great movement and mural works were created at the beginning of the revolution by the people and folk artists spontaneously and based on community needs. Popular artists who are located in the heart of the revolution sooner than academic artists in this initiative, they were able to hear the message of the revolution with all their revolutionary enthusiasm. Another point that has been emphasized in the mural painting, is wide communication and the public as a public media and its relationship with the audience. In this regard, it should be noted visual impact and thematic work on the audience. These effects can be cultural, social, political, religious and even mental. The mural painting is a multi-dimensional art which makes it more difficult aspects of the review. Undoubtedly honoring the martyr status, is not secret to nobody and all government and public organizations seek to somehow share in honoring the memory of the martyrs of the holy defense. So this mural painting for this purpose, can have more effects than other visual arts. (Kafshchian Moghadam, 2006: 20)
Audience viewing angle in the works studied

Growth in Tehran was very large, this has led to a complete revision of urban space is needed; including attention to compliance with the contemporary architectural space and contact visual culture, the exact calculation of the breadth of vision of urban space to read, modify and related relaxation spaces in the wall series, which is ultimately aimed to beautify the urban space, stylized visual space environment and pleasant environment impact on the audience. Doctor Kafshchian Moghadam in No. 22 of Negareh Scientific Research Journal refers to the field (vision, reading, distinct) and is described as:

Field of vision: separating limit between the audience and the wall (the whole works) is seen walls and murals.

Field of readings: separating limit between the audience and the wall (the whole works) that wall effect is perceived at a glance.

Field of distinct: separating limit between the audience and the wall (the whole works) the impact of texture and it tangible recognition technology.

Mural painting in each of the three fields (vision, reading, distinct) a different way to interact with the environment and audience and led to the emergence of the identity of its concept suited to each, as the characteristics of a successful mural painting, associated with the environment and the audience, the need for careful examination of the field of vision and reading is very important until the effects of drawing on the walls can make understandable visual identity and significance in the position of fixed or movable. Given that could make a big difference in the type of presentation of target plan and visual qualities and expressive work. The importance of this issue, the coordination and communication with the audience and environment effects, such that the audience is not passive role in front of the work, but by the quantity and quality of time and space and to recognize changes its position relative to the work involved in the sense of it and can be seen every time the combined effect of moving towards fresh and new.

While mural painting should be designed and implemented in such a way that they invite the audience to see, if the audience does not have to visually see disharmony. For example, the dimensions of the mural painting can be distinguished them from the poster species. This aspect helps the audience see themselves in a new environment, in addition to being attractive and avoid monotony, mural painting designs will be added to the urban space and even challenge the audience for a few seconds. Gradually, with changes in the design of murals, tastes of municipal people change and of course, taste and even problems of strengthening friendly. The effect of mural painting in the urban space, especially on the subject of revolution and martyrdom has a special place in people's minds and can be a profound and lasting cultural movement.

The collection of proposed section of the 3RD Tehran Mural Painting Biennial

Works in the competition "witnesses of city" from between 1800 works from 600 artists, for 500 Wall detected by 22 districts of Tehran municipality, was selected by a jury on 29 January 2015 and 159 were due to compete. In the article 16 of the proposed work, 3 works are due importance to the audience viewing angle, ie 30% of the works met the audience viewing angle and 70 percent did not meet. (Table 1) and a sample has been analyzed.

Table 1: The collection of proposed section of the 3RD Tehran Mural Painting Biennial
<table>
<thead>
<tr>
<th>No</th>
<th>Author</th>
<th>Work</th>
<th>viewing angle</th>
<th>No</th>
<th>Author</th>
<th>Work</th>
<th>viewing angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Banafsheh Ahmad Zadeh</td>
<td></td>
<td></td>
<td>2</td>
<td>Davood Amiri</td>
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<td></td>
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<tr>
<td>3</td>
<td>Reza Alikhani</td>
<td></td>
<td></td>
<td>4</td>
<td>Seyyedeh Sareh Sharifi Far</td>
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<td></td>
</tr>
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<td>5</td>
<td>Seyyedeh Sareh Sharifi Far</td>
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<td>6</td>
<td>Seyyedeh Salileh Sharifi Far</td>
<td></td>
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</tr>
<tr>
<td>7</td>
<td>Fatemeh Atoun</td>
<td></td>
<td>*</td>
<td>8</td>
<td>Fatemeh Atoun</td>
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<td>*</td>
</tr>
<tr>
<td>9</td>
<td>Karim Allah Khani</td>
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<td>Leila Delfan</td>
<td></td>
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</tr>
<tr>
<td>11</td>
<td>Maryam Yadegari</td>
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<td>12</td>
<td>Maryam Yadegari</td>
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</tr>
<tr>
<td>13</td>
<td>Mona Siavoshi</td>
<td><img src="image1" alt="Image" /></td>
<td></td>
<td>14</td>
<td>Mona Siavoshi</td>
<td><img src="image2" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Mona Siavoshi</td>
<td><img src="image3" alt="Image" /></td>
<td></td>
<td>16</td>
<td>Mina Mohammadi</td>
<td><img src="image4" alt="Image" /></td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Proposal. Tehran. Kashani Street, Artist: Fatemeh Atoun

Figure 2. The present situation of selected wall. Tehran. Kashani Street
Figure 1. Locating the proposal. The 3RD Tehran Mural Painting Biennial. Tehran. Kashani Street, Artist: Fatemeh Atoun

The proposed sample for analysis

Table 2: samples of analysis. Proposed Section of the 3RD National Tehran Mural Painting Biennial

<table>
<thead>
<tr>
<th>Location of image</th>
<th>Artist Name</th>
<th>Subject</th>
<th>Color</th>
<th>Type of designs</th>
<th>Type of signs</th>
<th>Technique</th>
<th>Technique of decorating</th>
<th>Image format</th>
<th>Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tehran, Kashani Street</td>
<td>Fatemeh Atoun</td>
<td>Allama Mohammad Taqi Jafari</td>
<td>Brown and blue tone</td>
<td>Geometric</td>
<td>Symbolic</td>
<td>Acrylic</td>
<td>Tiling, brickwork, black homework</td>
<td>Square</td>
<td>Decentralized</td>
</tr>
</tbody>
</table>

Picture of Allama is placed on the left side of wall. And the two square box that the artist inside the box and has seven colors for tile (clay tiles that originated from imitation); in the small square box, black text underfloor heating is started and directed towards the larger square box that is placed picture of Allama on it. This Nastaliq broken lines is not readable and as tissue box placed in the background. But is likely poem by Rumi because Allama is philosopher and Rumi gourmet and also contains a symbol of Allama being Iranian. Flat colors and blue tone has used in tiling and round square boxes, composed of an array of smaller squares that evokes the art of brickwork to the audience; has brown tone and with the use of flat color, give it dimension and depth. In the small square box, picture of the altar is seen. That Allama name is written inside it and Allama name in English is placed at the bottom of a large square box. (Picture 1) Due to the flat and angular colors are associated with the volume, the audience viewing angle in the plan were met. (Picture 2) Structural tissue of these motifs are similar to motifs of Islamic religious places like mosques (the designs in tile, stucco, etc. have been imported) (Table 2) (Youzbashi, Emamifar, 2015: 1945)

CONCLUSION

Martyrdom in the Islamic Republic is a genuine process; Stream where human beings passes and die for their belief, of opinion and his/her own country. Among this, martyr's face is the closest document Image to his/her act. Factors that old painters in the depiction of prophets and Imams used it. But with studies and the results obtained in this paper studied the works, we realize that this Biennial artists
have tried to create different effects than before and mural painting history in Iran. In total, they have been valued for its urban audience and away from repetitive elements and with respect to the audience viewing angle with respect to the theoretical foundations of visual art works, as well as clever use of imagery have created the image of martyrs. Due to the fact that the walls are suitable for mural painting in the drawing and implementation of highways and city streets, the wall needs to be examined in terms of audience, it is not blocking elements such as trees, signs and even buildings and not distort the readings murals. Because most of them were long ago a great place to create murals but with the passage of time and the growth of seedlings that were very small at that time, many murals have lost their readings and hiding behind a clump of trees, and even non-normative constructions. Therefore, attending to this issue in this part of environmental art is essential.

REFERENCES

SOME ISLAMIC PATTERN IN RELATION TO FOOD AND WATER HYGIENE

Mahdi Fakhar
Department of Parasitology and Mycology, Mazandaran University of Medical Sciences, Sari, Iran
mahdi53@yahoo.com

Morteza Darabinia
Department of Islamic Studies, Faculty of Medicine, Mazandaran University of Medical Sciences, Sari, Iran
m.darabinia@gmail.com

Mahboobe Montazeri
PhD student of Department of Parasitology, Faculty of Medicine, Mazandaran University of Medical Sciences, Sari, Iran

ABSTRACT
Islam is the most complete religion that pays special attention to human beings lifestyle. As Islam gives importance degree to spiritual and moral development of human beings, it equally emphasizes on body health and wholesome nutrition and guarantees human health with its life-giving commandments. In this study, we survey the importance of food safety on human beings physical and mental health, from the perspective of the Quran and quotes of Imams. The authors of this study gathered and surveyed the required information concerning food safety by referring to the Quran, Sahifa Sajjadiya, Nahj al-Balagha and by studying scientific texts. Multiple commandments concerning human nutrition and health were obtained by analysing gathered information. These instructions were also obtained by comparing religious and scientific resources. The results of the study of Islamic texts show that the most accurate commandments about the quality of water and food and human being nutrition have been gathered in Islam and human being will be immunized against many diseases if he applies these commandments in life. This study- according to Islam commandments- shows that not only Muslims have been prevented from using substances that are harmful to the body, but also be emphasized on human proper nutrition.

Keywords: Food hygiene, Water hygiene, Islamic patterns, Health

INTRODUCTION
In Islamic texts, there are many subjects about food and nutrition, but not all were studied scientifically. That’s why some people may think that Islam doesn’t pay sufficient attention to nutrition issue or pays attention only to primary topics which lapse in time and are not applicable anymore, while today Halal food standard has become a global brand. Contemplation of verses and Hadith guarantee the access to the secrets of creation in excellent system that not made in vain. The statements of Imams are full of principles and rules that guide the thinker well to know God's blessings and use them (Darabinia et al 2016).

1400 years ago, in Islamic texts, especially in the prayers of Imam Sajjad and Nahj al-Balagh, there were numerous references to health and hygiene. In the book Nahj al-Balaghha that contains the Sermons of Imam Ali, the term of “wholesomeness” and its derived terms were repeated at least 10 times, term of “Bless” at least 12 times, and the word of “Health” has been repeated at least 14 times. That shows the importance of health and hygiene from the perspective of Imams.
According to Arabic dictionaries, the term of “Bless” is equivalent to health and well-being. And the meaning of this word is more general than the word “wholesomeness” which is the opposite of being sick. In dictionaries, the word “Bless” is also used as “forgiveness” which in fact refers to the spiritual dimension (Nahj al-Balagha, Asadi Pooya 1996), but in our article, it is used as a synonym of health. As defined by the World Health Organization (WHO) health is the complete physical, spiritual and social comfort and not merely the absence of disease and disability; Islam mentioned this point 14 centuries ago. For example, in 23rd prayer of the book “Sahifa Sajjadiya” the physical and spiritual aspects of human health are both mentioned. In the first prayer, Imam Sajjad thanks God for feeding man with healthy foods and in the 27th prayer, Imam mentioned waterborne diseases (Cholera) and food borne illness (Sahifa Sajjadiya, Asadi Pooya et al 2000).

The Holy Quran expresses the most general commandments about nutrition and health of human and saw: Of course man must be careful of food and nutrition (Sure Abase, verse 24) and states elsewhere: People of faith, if you are worshipper, eat from healthy food that we have given to you and give thanks to God, if you are worshipper (Sure Baqarah, verse 172).

Generally, from the perspective of Islam, any food that is harmful to body is Haram and prohibited. So according to jurists sentence, many foods that are not mentioned in the Quran and Tradition but are harmful to humans, are Haram and forbidden. In addition, in hygienic topics, Islam, as a simile, considers dirt and microbes as Devil and it considers hygiene and cleanliness as light and mercy (Paknejad 2014, Norani 1990).

Imam Reza states: God did not make Halal any foods or drinks unless they were in the interest of human and did not make them Haram and forbidden unless they caused harm, death and corruption. For example, consumption of some fruits and vegetables is considered as desirable, because they fortify the teeth or they have positive effect on stomach function (Teb Al-Reza).

Also in 172th verse of Sure Baqarah, God states: People of faith, eat from clean and Halal nutriments that we have given to you. And in verse 173 of Sure Baqarah, God saw: God made Haram the carrion, blood, pork meat and all animals slaughtered without mentioning the name of God. The consumption of pork meat, alcoholic beverages and carrion are the examples of forbidden consumption in the Quran (Quran, Sure Baqarah, verses 172 & 173).

The Holy prophet Muhammad considered the observance of cleanliness and hygiene before and after eating, as a condition of blessing of food. That shows the importance of hygiene standards while eating and its positive and useful effects from the perspective of the Prophet of Islam (Teb al-Nabi).

In Islamic texts, there are many topics about water and food hygiene that are considered suitable for the past time and not applicable from the perspective of some people. In this study, by referring to the Quran, accurate interpretations, quotes of Imams and other Islamic resources (Sahifa Sajjadiya and Nahj Al-Balagha) and by studying scientific texts, we gathered and studied different information concerning the importance of food safety in different dimensions on mental and physical health. The results of this study are gathered in several parts of this article: The Infected surfaces, predisposing factors for the proliferation of microbes, microbial toxin, food and water incompatibilities and meat hygiene. These parts contain the most minor health issues in accordance with the community’s level of that time understanding.

SOME INFECTED SURFACES
Imam Ali saw: Don’t drink water from the hole created on water bowl or from the side of the cup handle cause Devil (today means microbes) sits on the hole or handle. Imam Baqer also has prohibited drinking water from the side of the cup handle or broken part of pot cause these are the places of microbes (Abdullah Shobbar). Prophet of Islam saw: Don’t spill the trash behind the door since that become the place of Devil (or microbes). (Teb Al-Nabi)
PREDISPOSING FACTOR FOR THE PROLIFERATION OF BACTERIA, IN PARTICULAR SOME FUNGI

Imam Ali saw: Devil (or microbes) tends to live in humid, greasy and dark places (Norani 1990, Abdullah Shobbar). Prophet of Islam saw: Do not pass night with greasy hands; otherwise, you may blame yourself if Devil (or microbe) hurts you (Teb Al-Nabi).

MOCROBIA TOXIN

Imam Sadiq saw: Cover the dish cause Devil (or microbes) eats from the dish and releases saliva (or toxin) on it (Teb Al-Sadiq)

FOOD INCOMPATIBILITIES

Imam Reza saw: Avoid eating both fish and eggs cause the combinations of these two foods in stomach develops gastrointestinal discomfort and causes Gout, Colic, Haemorrhoid and toothache (Teb Al-Reza)

FOOD TOXINS

Imam Reza considers food toxins as the reason of a group of diseases with unknown causes (Ibid).

WATER HYGIENE

The followings quotes come from Imams, they are related to water hygiene:
Boiled water is beneficial for all things and is not harmful to anything.
Avoid drinking water after eating fruits or greasy food (Drinking water after eating greasy food causes acid reflux).
Do not bathe with subterranean water or water of well cause these waters are also consumed by the others.
During the digging of well, make a distance between water of well and wastewater.
Your drinking water should be white (clear) and lightweight. The best water to drink is the water that the first rays of the sun in summer, pass over it.
Avoid drinking salt water with heavy volume or abundant in minerals. Drinking salt water causes constipation.
Rain water is light, soft, tasty and useful as long as it is not remained in a hole (Sahifa Sajjadiya, Paknejad 2014, Teb Al-Reza, Teb Al-Nabi, Teb Al-Sadiq).

MEAT HYGIENE

Prophet of Islam saw: Raw meat should not be eaten till the fire or the sun -prepared meat with solar heat- changes it.
Eating the meat that is dried in the shade is prohibited.
Eating the meat of a bird that eats uncleanness is prohibited unless it eats only healthy and clean food for a specified period of time.
In Islam, eating the meat of some animals such as pork, canine, rabbit, crow, birds with claws, and also some parts of animals with Halal meat like Testes, vulva, uterus, spleen, spinal cord, pituitary and the blood is forbidden.
Consumption of Carrion meat is also prohibited. A fish that died in the water should not be eaten.
According to Islam emphasis on prohibition of pork consumption, it is necessary to mention some points about it. The holy Quran cited directly the prohibition of the consumption of pork in four Sure of Maedeh verse 3, Nahl verse 115, Baqarah verse 173 and Anam verse 145. The prohibition of consumption of pork is also cited in other religions like Judaism and Christianity (Paknejad 2014).
According to the studies of medical science researchers, the consumption of pork meat could cause several infectious diseases such as parasitic diseases including protozoan or helminth diseases in human (Ibid, Eslami 2006).
Therefore, diseases like eye and brain Cysticercooids transmitted through the consumption of raw or half-cooked meat of pork have low prevalence in Islamic countries cause pigs are not raised in these countries and these animals live just as wild boars in forest areas (Djurković-Djaković et al 2013).
Prohibition of pork consumption is not only due to disease transmission cause many diseases are transmitted to human by consumption of Halal meat animals like cows, sheep and birds but Islam has never prohibited the consumption of the meat of these animals. So the issue of prohibition of porcine meat consumption is beyond the transmission of disease and damage to the human body and according to Islamic texts, it seems that social, mental and psychological problems and unethical behaviour are also the factors of prohibition of consumption of porcine meat (Spotin et al 2014). Also the studies of...
researchers show that consumption of the meat of each animal, passes some traits of the animal to the consumer and this can affect a person’s behaviour (Sakr 1971). On the other hand, the attention of Islam to human dignity makes it prevent people from consuming the meat of predatory and feces eating animals.

HEALTH TIPS OF IMAM REZA
Eating kidney and internal organs of sheep (tripe, abomasum) is not correct because it is harmful to the bladder.
Eating meat that is not cooked properly creates worm in the stomach. Here Imam refers to the prevention of diseases causes by Taenia Saginata or measles.
Avoid overusing of beef and hunted meat. Imam may have paid attention to the risks of red meat for health.
Abstaining from eating slow digesting foods and toxic substances such as alcohol, tobacco, foods irritating the stomach and observance of food consuming time.
Those who don’t want to suffer from stomach pain don’t drink water while eating. Drinking water while eating weakens the stomach and causes indigestion. Today, it has been confirmed that this causes acid reflux.
Avoid eating too much onions cause high consumption of onions decrease the happiness of the face.
Do not eat too much boiled eggs; it causes shortness of breath and flatulence problems.
Don’t drink cool water after eating sweets or hot foods cause it’s harmful to your teeth.
If you want to prevent your tonsils from growing, gargle vinegar after eating sweets.
In trip, use fresh meat without fat, use also vinegar and verjuice. Honey with pungent smell, or honey that weakens the body or burn tongue are not good to use.
Do not eat citron at night because it has undesirable effect on eyes.

SOME OF EATING AND DRINKING ADVICE IN ISLAM
Avoid eating hot food.
Avoid blowing on foods and drinks.
Avoid eating and drinking with left hand.
Take off your shoes while eating.
Avoid drinking salt water that contains sulphur; avoid drinking water with changed color and taste.
Drink water during the day while you are standing up and during the night while you are sitting.
Avoid eating leftover of animal feed.
Wash your hands before and after eating.
Use fresh vegetables while eating. The prophet of Islam considers the exclusion of devil (or microbes) as an important property of fresh herbs and vegetables.
Avoid cutting bread with knife.
9.11. Use a little amount of salt at the beginning and at the end of meal. This neutralizes the acidic environment of the mouth, keeps teeth healthy and helps the stomach to digest the food (Norani 1990, Kordafshari 2015).

CONCLUSION
Islamic instructions are based on human beings’ nature and all what we see in Islamic texts about Halal (lawful) and Haram (unlawful) are based on human real interest. The holy Quran provides best commandments concerning food safety. It provides instructions about Halal food by taking into account all aspects of health, quality and safety. Implementation of such standards is subject to understanding the Quran, the acquisition of modern knowledge, education and practical promotion of Halal (lawful) and Haram (unlawful) culture, quality and safety assurance programs and going towards the production of organic products.

The doctrine of Islam has forbidden the evil and considers cleanness and health as Halal and lawful and provides solutions to achieve balance in life. Islam is a religion that provides solutions to strengthen and calm the spirit of the people in the society. It also provides commandments for nutrition and health of people in individual and social aspects. So the followers of this religion feel its...
practical and spiritual role in their personal life. They never feel themselves away from the source of God’s grace.

Islam expresses most hygienic issues as Obligatory, Prohibited, Recommended and Detestable. For example, eating unclean and evil things such as meat of carrion, Haram meat animals, alcohol and other harmful things to the mind and damaging to health are Haram. On the other hand, many hygienic topics that have important roles in people’s life are stated as obligatory or recommended. For example, the conditions of prayer are the purification of body and clothes, and ablution are obligatory for prayer. Also in ablution, washing inside the nose and mouth and brushing the teeth are recommended. One of the reasons of attention of Islam towards hygienic topics especially water and food health is to prevent the transmission of diseases and food poisoning caused by consuming unhealthy food. As it is proven today, unhealthy food has important role in the transmission of many parasitic diseases such as measles, lung fluxes, liver fluxes, fish tapeworm, amoebic dysentery, and intestinal infections such as gastroenteritis, bacillus dysentery, cholera, typhoid, jaundice and infectious hepatitis. In the end, since many progressive Islamic rules on hygiene remain unknown, so research and scientific study on these rules could bring useful outcome for humanity, therefore it is suggested that further research would be conducted for finding the relationship between Islamic medicine and modern medicine and promoting health issues that are emphasized in Islam.

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THE IMPACT OF THE RESIDENT’S PARTICIPATION IN IMPROVING DESIGN AND HOME CONSTRUCTION PROCESS

Ali Behrad Manesh
Engineer, Master of Architecture, School of Architecture Science and Research Branch of Islamic Azad University, Zahedan
behrad1985@gmail.com

Esfandiar Azizi
Architect, Master of Architecture, School of Architecture, Noor University
espaand@yahoo.com

ABSTRACT
Considering the characteristic of human in that they failed to meet the needs of its residents in recent years has become a public demand. The architect's role as the sole decision-making authority for the design environment is gradually changing and the needs of users, Demands and interests that provide opportunities for individuals working in the project. This led to a paradigm shift in the architectural Schema. So when trying to engage users with different people or in planning. The approach under various titles such as participatory design, user design, etc. Is introduced. The aim of this study was to obtain more desirable homes with residents to cooperate in the process of design and construction. One of the most important needs of home residents have their mental health needs And a place in the human mind develops always include cognitive represent different angles are viewed. Today, collaborative design or design as the foundation of a new paradigm in the design process, creativity is manifested Theoretical and scientific aspects of the recall and recognition of the central purpose of this research. Houses should be designed to suit the needs of residents this is not possible unless before designing and consulting with residents to ask them. And ideas in a logical and consistent design to be used.

Keywords: Participatory design; Ideas residents in Design; home design

INTRODUCTION
Architecture and urbanism in the present era are strongly influenced by the hasty adoption of the principles and concepts of modernity's value and in the meantime, the concept of residence is mix with the concept of staying and it was assumed that House-building process should only terminate to improve and Housing reform process in order to respond to the thinking quick yielding.

Thought that believes the only way to overcome the housing crisis is mass production. In this process, the individual needs and mental demands and intellectual characteristics and residents attitudes, victims of quickly growing of uniform and meaningless house building. The research endeavors to participate in the noble meaning of the original word as correct in the restoration of housing, the actual position and its cultural assist and converters the house to be safe and secure place. This research is based on promoting human values and cultural perspective, from the perspective of evidence-based practices and case study analysis and In terms of result, therefore, can be considered as a functional survey.

Hypotheses:
The main issue is based on “the reflection of the participation of residents and designer in the design of the house” that we express it: How can we achieve to a more desirable designing and building homes by
participating of residents in the design process? Accordingly, a number of questions can be raised based on diversity of participation applications in architecture and it’s reflects that presented as follows:

1. With participation of the designer and resident of the house, in the design and construction of their homes, can be achieved to the best plans and architectural drawings for people.
2. Architect or designer could use the residents of the house viewpoint, and create the best ideas and designs based on the mood of the residents

“And Allah gave you houses for habitation, and made for you of the skins of cattle some houses which are light for the day you travel and for the day you stay at stage, and from their wool and fur and hair some household goods and the things of use for a time. (Surah An-Nahl, verse 80)”

**Housing from the Islamic perspective**

In the Qur'an, the housing is mentioned as a place for relaxation and binding, which means that housing plays a role in the training of human and he approaching God, and effects the manner of human and this effect leads him to understanding the blessings of the Lord.

Home becomes a safe environment in term of psychologically that have the ability to respond to higher-level of human requirement like self-actualization and thought.

In Islam and Quranic verses emphasis on the importance of residential homes, to achieve spiritual peace. The main result of serenity, spirituality of home space, ability to accommodate and the ability to respond to the spiritual needs of human beings, such as thinking, presence and peace of heart.

**Home (housing)**

Today instead of using the house sometimes is used the home and this word in the past, was called to the room.

Housing is an extensive and complex concept, and has different dimensions, so it cannot present the comprehensive definition of it. Housing is considered as a physical location and basic shelter and essential household. In this shelter are provided some of the basic needs of families, such as sleep, rest, protection from weather conditions and the summary of living conditions.

The first definition: "home is coverage that is consistent with some of the conditions of the proper relationship between the external environments and establishes the human biological phenomena. An individual or a family must live in the home. That is, sleep, walk, lie down, and see and think. "(Le Corbusier)

The second definition: "Home is the center of the world that for its citizens and its neighborhood is the most prominent building in the consolidation place" (Moore)

The third definition: the house in the first place is an institution and not a structure and this institution has been created for many complicated purposes. Since the construction of a house is a cultural phenomenon ...

"(Rappaport)

Fourth definition: home is a place that residents don’t feel upset and inside the houses that women and children are living there should have variety that they do not feel fatigue "(Pirnia)

In the following is referred to the basic principles with values for designing homes that should be carefully discussed.

1. Environment: none of the architectural work cannot and should not be made without regard to its surroundings because the environment has a significant effect on residential architecture.
2. People: Human in architecture are the most important factor and also the architecture is dependent that this effect provides maximum comfort of people and is more efficient in response to human needs. (Kiani, Mohammad Yousuf, 2005) Architecture for people and attention to the audience to design the building as an important concept and architect should be imprinted in their mind. Proportions and human scale in urban planning and architecture plays an important role in regard to these issues with regard to the use of local materials and in harmonious with the surrounding nature and it also added to the beauty of the buildings and urban, thus creating the
spaces takes advantage in human dignity that, regulation the golden proportions, dimensions and size of spaces and reveals it to the best possible. (PirNia, Mohammad Karim, 1995)

3. Facilities: take attention or lack of attention to materials and methods of construction and the use of correct or incorrect concepts and form template method causes the success or failure of an architectural work.

4. Sizes and Standard: This parameter is considered from two directions and can be determined one of the responses to the human body needs and the other is its effect on the human psyche.

5. Spatial regulation: residential architecture is realized of its nature and because of this in such spaces, also needs to the spatial regulation.

6. Visual art qualities: beauty considerations cannot be installed on architecture or hung from it. Architectural beauty is something that must come from within and outside of it. (Kiani, Mohammad Yousef, 2005)

House in the past on the one hand is the center of feelings, emotions, thoughts and personal and family relationships, and on the other hand is reflection of the culture of its time. Traditional houses design is targeted of the human spirit and has played an effective and essential role in promoting human presence in the family and society.

New world and new architecture
The overall goal of the modern architecture is taking place of the new settlement of human. The new settlement must satisfy the human need identification and thus the expression new "rapport" between humans and the environment. Le Corbusier in 1923 wrote: "home issue, is a new era issue.", "Social balance depends on this issue. Architecture, in the modernization era, is the first task that was to revise the values and elements of the house."

Many times, the modern architecture pioneers, recognized the modern world, and emphasized that architecture cannot apply to the past forms. In this regard, Le Corbusier has well-known slogan: "An important era has begun. There is a new spirit ... are suppression architectural traditions and customs. "Styles" are lies ... our era, and style are determined day to day. "And" Mysundroheh »added:" Not yesterday, not tomorrow, but can be determined form only in the present. "The idea that was expressed was regardless of political beliefs ..." as a result, the architecture must act again, and this goal was not raised before this century.

In 1914, Antonio Sent Elia, follower of futurism said: "Architecture break down with tradition; it is necessary that the architecture begin again. Bitter conflict reveals that between modern and old world with something that there wasn’t before ..." all comments that quotes, back to the moderate and unadorned questions to 1826: "do not try to find our style?"

All these theories are induced somehow less attention or perhaps neglect of human in the architectural environment.

While in modern architecture because it puts life into helping humans and in the new world feel comfort like their home. The concept of this feeling of comfort, is beyond the need for shelter, cloth and food; and in the first instance this concept is to identify with the natural and social environment. This concept is also a sense of belonging and participation, this means that familiar and understood world possession. Man must feel exposed to known, meaningful and with the identity things. We are all aware that this identity in the modern world becomes problematic. Confined and secure spaces have collapsed, and seek to the new structures. In today architecture, have been ignored the most important criterion that is culture, customs and people.

Culture and its impact on architecture
Human is a creature that has been dominating to the nature through the culture and from the barbarism has reached to the modern civilized society. Sir Edward Burnett Tylor, English Anthropologist, in 1871
(Assyrian, 2002) with the publication of Primitive Culture book, proposed culture as new scientific means in anthropology, but this knowledge was not used until 1920.

Cultures were used in the traditional sense it means to civilization, and human culture is known based on their behavior, food, music, art and literature that had special characteristics, While Taylor has been introduced culture as science, religion, art, morals, customs and any human ability and habits that binding the human to the certain groups of communities that is a comprehensive definition of culture. New concept of culture emerged when the need for understanding the culture and the meaning of life and human behavior became necessary because the concepts of natural science were not clear for natural and biological phenomena for human behavioral, so that cannot present human behavior based on the needs and biological mechanisms such as the need for food or shelter for the survival of the individual. Because human vital needs are such as the animal’s need, while requirement in the human world take the complex form with the combination of the values, ideals, expectations, ethics, and traditions.

Culture is divided into two parts: 1. Material Culture 2 - spiritual culture

Material culture: includes all equipment and material instruments and what is man-made from natural material and their methods and construction processes.

Spiritual culture: including values, visions, beliefs, ideas, knowledge and technology, customs and traditions, science, philosophy, literature and art and all products of the human mind. (Khakban, M., and M. Rajabi)

In fact architects are not depend on the building strength and the amount of cement and iron. Architecture essentially requires people's culture, and this is the old architecture and traditional definition of the Iranian people. (Ibid., P. 20)

For example, the Iranian specific beliefs have influenced on the formation of various architectural spaces, particularly in residential areas.

**Chandigarh, a sample of an unsuccessful task:**

Le Corbusier After years of trying in Rio de Janeiro, Algeria, san die and Bogotá, in 62 years old to find this rare opportunity to practical his theories on a large scale to design a new city. Chandigarh was raised after the independence of India in 1947 in order to accommodate west Punjab and the main requirements of the city and should become the most important and basic work, because his plan was the only real urban design that he implement it. Le Corbusier generally did not dispute the average residential units, and don’t forget the correlation problem, and defined their units as Panorama village with internal streets.

Today cannot agree with the vertical village idea, but before this idea to be forgotten, it should compare it at least with the past villages that have been made in areas with steep. Chandigarh with its separation from the city, almost become a forbidden zone for most of the citizens who expect him to the glory of its architecture. Due to the great distance of the Capitol buildings that had been converted into separate units. But what happened on Chandigarh is not consistent with Le Corbusier dream. Each of the buildings has remained apart from the city and its people. For security reasons, surrounded and isolated with fence and barbed wire. The product is nothing except extensive and impressive concrete areas. By walking through the remained area between the buildings with rough and worn surfaces, Capitol induces the effect of annoying downtime as if it has been frozen since its inception. However, finally, it seems that the interests of Le Corbusier as an artist varied with Shandygar citizens interests. Human feels with the same approach and to prefer more lifetime and Shandygar residents due to the enhancing their intuitive knowledge in the field of architecture, was enduring source of imagination and vitality for him, appreciative of him.

What cannot be seen in this town that has brought many problems are attention to pedestrian and human scale that are missing from the modern cube-shaped building of the cities and by ignoring the human and spiritual needs and violation of traditional norms and rituals.

If we look at the project from a professional point of view, we should say that today's complex requirements and technical demands of much modern architectures, it's seems impossible that a designer to undertake such a huge task. Le Corbusier as observers say, during the design insist on solving all the
problems of the buildings without attention to the expert opinion. He also fears that others ideas influence or import on his opinion, and refused of any dialogue about current trends on the project. While Le Corbusier at all stages are willing to take bold risks, but neither city, nor buildings, have not been successful in practice. He failed takeover on the climate, including hot and monsoon winds appropriate use of non-insulated concrete. Similarly, in urban scale, separation and differentiation pathways and streets with zoning regulations, is not encouraging for lively and dynamic activities. Inflexible nature of the city provides images from metropolitan Abadi.
Le Corbusier in his book entitled The City of Tomorrow (1937), shows a blank rectangular that this sentence is written in “to be kept empty for the work that expresses modern feeling”. Le Corbusier take attention to design of that area, it was hoped that he, himself, adequately responses to the needs of the urban space in the Capitol of Chandigarh. However, like many interesting ideas, his attention is influenced by architects of different generations, Chandigarh because of what it could be, has important, not what it is today.
Encountered problems due to the lack of proper understanding of designer of scale and nature of the project, causes of this failure that of course, all of them does not detract from the great history of Le Corbusier and nowadays he has been a source of inspiration not on his victory, but in his defeat.

**Jibaou cultural center as a sample of successful task:**

http://iwankhaneyememary97.blogfa.com/post/28

New Caledonia Islands has a land area of 18,575 km² and a population of about 216000 people in the western waters of the Pacific Ocean and in the1500 kilometers of the east coast of Australia. Nouméa is a center. The islands are volcanic and mountainous. Roamer English in 1774 called it “New Caledonia” because of his resemblance to the scenery in Scotland Caledonia. Climate: Warm and wet and rainy and it soil is suitable for agriculture. Its Islands has dense vegetation and its nickel mine is remarkable because has been a lot of mines becomes French colonialism. People are Melanesian descent and 2. 7% are Muslim.
The reason of the construction of the Jean-Marie Tjibaou Cultural Centre

Construction of this center was to express a Kanak culture to make a decision which the French government during the peace conference after the riots of 1984 and 1988 adopted in New Caledonia. This center, named by Kanak leader who has been killed in 1989. Mr. Piano’s design in an international competition to be selected as a chosen design.

Jean-Marie Tjibaou- France New Caledonia Cultural Centre

From the distance and among high pines that surrounding the beach, in a glimpse, can be seen the village. This view, in combination with the activities of building construction in the village, provide required motivation for the construction of a new complex. By approaching to this area, reveals the reddish wood and basket-shaped structure of buildings with magical mix of a seemingly ancient situation with primitive and archaic geometry and its ancient forms seems that modern and up to date.

Even obtained great results before the construction of the complex is indicative of a positive response of Piano to showcase New Caledonia Kanak culture that prevails in the region and shows the need and his great interest to rethink and motivate human culture steadily and different shapes. The project also expresses deep insight about the facilities and capabilities of contemporary architecture and how to combine it with the details and intricacies of the local culture. The project is also capable in addition to the missing thinking at the time of restoring the ancient ideas of a people to build a relationship with the surrounding natural environment. (Mousavi, Mir Saeed, 2006)

This people architecture is unique to the wooden-chaffy Cottages, and this is its major limitation of the model for interpretation. Another limitation of this cottage is ephemeral. Kanak local architecture is maintained through the continuation of a specific building practices. Piano response to this issue is kind of architecture that does not defy single building. Complex image from long-distance shows an environmental marks that is complementary and differentiating of beach landscape from far away. The image to be formed of the ten-cottage-like structures in different dimensions. The center has been created from three sections that each section as a native and independent village. Organize the planning sector and circular spaces associated with the Kanak tribe’s villages. Methods and materials used to build the cottage like structures are also inspired by this culture.
Piano Art in converting the native structures to high-tech - single layer:

One of the main effects of this collection, executive power in terms of craftsmanship to build them that has rooted in the civilization and region culture. Industry and manufacturing skills that may have crystallized the practices in this area. Structural form of Renzo Piano's to be able incorporated with patterns and abutments forms, braces and other structural elements. The structure of the buildings is double glazed and the gap between walls is considered as valuable tool for cooling and ventilation of the interior. (Mousavi, Mir Saeed, 2006)

Intertwined network with delicate texture, makes up the outer shell of buildings and are differentiated with the vibration in different parts. The outer shell of the building is more dynamic. (Ibid. 100)

**Deeper look into 2 project**

If you look deeper into the Chandigarh project and Tjibaou cultural center, we will find that Le Corbusier unwanted ignore some items in Chandigarh that was the failure reason of the project. In Chandigarh can clearly see that Le Corbusier, himself solve all of the problems and because he was afraid of the others opinions affect him and contributing to the project were not consulted with the experience of local people, also the lack of sufficient knowledge of the customs and traditions of the region and ignoring climate and weather conditions that prevailing in that area could be another factor in the failure of Le Corbusier, while Renzo Piano, in the Tjibaou cultural center project be more accurately considered the same things that cause failure in Chandigarh and with precise and comprehensive research and utilization of technician specialists could create successful and exemplary task.

However, if we want to examine on a smaller scale, such as the design for a residential house, the most important thing that the design should be considered is people who had to live in that house, a designer should know what are the needs of residents, their interests and their spiritual understanding, to know
family customs and bear in mind when designing, a designer must have adequate knowledge of regional climate and also consider climatic factors when designing, so we can say that to get some of this information, need to be consulted with residents and if it does, we can certainly achieve the best plans and architectural drawings for residents and have full compatibility with their spirits. So, building that be constructed that is definitely relaxing place for residents, in this case the proposed hypotheses that have been initially mentioned are accepted.

RESULTS

Overall, consultation, assistance and interaction that occurs between the designer and project owners, can create a home that has the greatest harmony with their expectations. The designer should always try to design and implement individual ideas and comments with regard to the general framework in the form of appropriate plan that has the all of the issues such as (culture, innovation, localization, climate, etc.) and all of these interactions will yield results which we refer to below.

1. Accepting plans and urban homes by the people: When people are involved in preparing a plan, of course scheme, adapted to their needs, desires, interests and tastes and this increases the acceptability of projects by them.
2. Appropriate knowledge of the culture and way of life of the resident’s home and use in home design
2.1 The dynamics and viability of the project will appear in larger neighborhood scale: When the house to be achieved based on sufficient knowledge of the culture and lifestyle of its people in a small area by the designer, the house was consonant with the demands of operation and achieved satisfactory exploitation and in larger urban scale will be less displacement control.
3. Quality of the project: In this regard, it should be argued that the quality of the project should be a different due to regional cultures and building are more favorable and important among the people of an area, if this building was built elsewhere had not been acceptable and vice versa.
4. The importance of the role of people in the design process: It would definitely be said that if Le Corbusier paying more attention to the life of the inhabitants, culture, climate and the importance role of people, did not observe the defeat of Le Corbusier and Abandoned of Chandigarh.

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DEVELOPMENT OF REGULATIONS AND STANDARDS FOR DESIGNING THE TECHNICAL AND VOCATIONAL COLLEGE WITH AN APPROACH OF INTEGRATING THE EDUCATION AND WORK PLACES

Solmaz Namadieslam
Faculty member at Sama Technical and Vocational College
s.namadieslam@yahoo.com

Hamid Lotfollahian
PhD student, Gazi University of Ankara
Sama technical and vocational training college, Islamic Azad University, Ardebil Branch, Ardebil, Iran
hamid_19732002@yahoo.com

ABSTRACT
Nowadays, the psychologists have considered the human evolution as the outcome of personal and environmental interaction. According to this view, the potential talents and abilities are developed in an appropriate environment, and then they are actualized. Therefore, it is very important to pay attention to environmental factors. With regard to motivation of students, there is a need for physical planning to provide new spaces for Technical and Vocational Colleges in order to strengthen and enhance their professional skills; and the integration of work space at college can be an effective step in students' success in different education groups. Numerous conducted studies have only paid attention to design of colleges according to climate and investigated the impact of physical dimensions in educational spaces such as dimensions and proportions, light, color, furniture and arrangement of spaces, etc, or per capita and radii of access to educational spaces. These studies have been conducted in general for all educational spaces, but they are not conducted in particular for all technical and vocational colleges. In this study, a questionnaire is designed for evaluating the impact of workspace at Sama technical and vocational college of Ardabil and distributed among 100 students. The results indicate that most of the students agree with creation of workspace at this college; and establishment of a workplace in the form of workshop and attendance at Sama technical and vocational college can be a step in development of educational goals and increase in students' creativity and skills.

Keywords: Architecture; Integrating the education and work; Technical and vocational

1- Introduction
The achievement of a proper, comforting and safe, vibrant and joyful educational space and in short a desired educational space requires careful and widespread planning. John Dewey, the famous educations scholar, declares about learners' inner motivations and interest that: "The interest is a spark without which the flame of learning will not be fueled". Any start requires good communication and atmosphere. Teaching-learning process is a two-way trend which needs both parties' agreement. According to Orton et al, the physical space of classroom should be according to students' characteristics because in this case the learning space can have a positive effect on learners' social-cognitive development. The attention to students' characteristics including the cognitive, social and emotional characteristics in designing the learning spaces can enhance the quality of these spaces and have positive impact on students' development in above-mentioned dimensions.

Nowadays, the education is a source of social changes and innovation. The changed education means doing the plans and procedures in different ways depending on the widespread and diversity in social structure of society. Planning, technology and innovation of ways are new methods and elements which affect changes and improvement of works and their desirability. Education should be as a balance tool among the changes and innovation, and sustainability and stability (Sadri, 2001: 14).
Given the extensive and broad range of educational system activities, it is necessary to use the most desirable practices in designing and implementing the activities in order to improve the educational quality (Rastegarpour et al, 2009). The ultimate purpose of education is to achieve better learning and this goal will be realized when a basic and principal process is well learned in selecting and providing the educational content for students (Shanmugapriya, 2011).

Barker, the founder of ecological psychology, believes that there is a specific correlation between physical dimensions of architecture and behavioral dimensions in physical bases of behavior. The educational spaces such as classrooms, workshops, etc or the entire educational spaces are considered as the settlements. Benches and their arrangement in a classroom or architecture of educational space, the physical dimensions of architecture, education and all measures in the classroom and college are called behavioral dimensions. (Peaz & Besable, 1997)

Barker's ecological theory pays attention to social and organized dimensions of settlements, and it is argued that anyone plays certain social roles in physical behavioral settlements. Meanwhile, the systematic social laws and regulations indicate that which behavioral models are provided with time spaces by people in different social roles (Habibi, 1999).

It should be noted that how learning occurs basically. Certainly, our conception of good learning should be along with criteria which cannot be achieved without previous plans. How can be along with learning, but we do not have any plan to reach it? The choice of appropriate and constructive plans will lead to the growth of learning and its desirability. The learning loss will lead to the students' loss in educational periods, and the lack of correct choice of courses, course repetition, non-achievement of science generation and finally the basic human backwardness are all the side problems of absent appropriate plans in education.

Most of the educational activities, prepared by teachers for students, include the students' shallow perception (just memorizing and understanding the concepts). In the case of these conditions, how the same shallow educational methods can be implemented for learners who have entered new levels and are faced with some specialized concepts and laws; while the size and complexity of these concepts have also been increased. Therefore, there are often non-stable learning and even shallow learning of these lessons. To achieve an effective education, there is a need for designing which includes the content, subject and approach selection in inside. According to most of the criticisms of traditional design approaches (conventional), these approaches specify the learning objectives, but they are unable to achieve those goals (Sharples, 2010).

In line with educational activities, the interest and motivations are among the most important topics in teaching-learning process because the teachers and students' efforts will be futile without motivating them. In general, if we even have appropriate and principle plan in which the components are well specified and implemented, we will certainly fail without attention to motivation and motivational components in educational design. It should be noted that we should choose motivation as a reason and consider it as educational purpose and a prerequisite for educational activities in designing for learning (Seif, 2006). With regard to students' motivation, there is a need for physical planning in Technical and Vocational colleges to provide new spaces in order to strengthen and enhance their professional skills. The integration of workspace in college can be an effective step in students' success in different fields of study.

2- Research necessity

Given the young population of Iran, the changed public attitudes towards the past two decades, and some economic and cultural considerations, there is a need to pay particular attention to academic experts' training and development. More study on reveals that there is a significant theme of changes in educational space and integration of learning environment with changes in educational system in today's developing countries, and thus the open educational system based on a flexible educational space provides a reliable, scientific and cost-effective solution compared to conventional educational system.

However, we can achieve some circumstances of spatial quality and evaluate some educational frameworks as well as organizing the change management by an educational space architect and designer by consultation according to a focus on users of educational facilities in change processes. Therefore, we will be ensured that this change of structure is based on the architectural principles and methods and moves towards the educational quality in addition to the improvement of architectural
quality and enhanced spatial efficiency. Therefore, we will prevent some changes which occur in certain circumstances.

The educational method, course content, and teaching methods will be changed without change in physics of colleges, so new behavioral models need new physics, spatial communications and regulations which have been less taken into account. Nowadays, the body and spatial communications of technical and vocational colleges have not taken into account only based on the climate, rules and regulations, whereas there is a need for attention to other items such as flexible spaces, designed body proportional to educational content, updated rules and regulations based on the changes, etc along with other factors. The applied strategies have not been effective in integrating the work and educational places for reasons such as wasting students’ time in visiting the workplace or passing the unreal training courses, etc; hence, it is necessary to carry out feasibility in some work spaces and seriously add this feature to some educational spaces as well as developing the communications and spatial diagrams and their regulations with other spaces. In some cases, it is necessary to construct the educational spaced in the vicinity of workplaces, so that we should pay attention to their possibility and relevant regulations in their location. Some of the workspaces should be designed in spatial and functional correlation with educational spaces; hence, the applications around these spaces can be effective in this regard, and thus we should develop the regulated types of these applications, and their layout and spatial relations with colleges. Furthermore, the spatial diagrams and technical regulations of building should be revised and redeveloped based on new approaches of integrated work and training spaces. Therefore, the training managers not only will be able to integrate more educational spaces with workplaces, but they also help the students to gain new experiences from work place by creating jobs at colleges, and thus they will achieve the new and sustainable sources of funding. The necessity of involving all stakeholders including students, professors, employers, and educational managers in any physical and non-physical changes is among the requirements without which the proposed cases will not be successful. There is a need for location-based strategies and regulations in this field at various urban scales, surrounding land use and spatial diagrams of technical and vocational colleges. We should investigate the feasibility of implementation methods and funding sources of each regulation in order to implement and generalize them to educational spaces of province according to its climate.

3- Problem Statement

Education spaces are among the architectural environmental areas which play major roles in a community. The role of education is undeniable in development of society. The neglect and ignorance in designing the educational spaces have led to undesirable results in numerous countries (Karimi, 2001). However, the physical space of educational buildings has remained unchanged, and physical changes have been only limited to restoration of these spaces. Therefore, the created optimal models of spatial connections for technical and vocational colleges based on integration approaches of work and education places can create the attention to climate-friendly design and physical dimensions and characteristics in students’ learning and also provide the connectivity and spatial dependencies of work and educational spaces at different urban places, neighborhoods and educational buildings. The educational and work places can be more integrated by the optimal location of technical and vocational colleges in the field of workplaces and intermediary organizations and also favorable educational per capita at the urban level; and by offering favorable model and type of land use arrangement around technical and vocational colleges at the local scale; and proposing the spatial diagrams and arrangement of educational spaces with each other, sizes, infrastructures, etc at minor scale of college structure.

Most of the efforts and conducted studies have been on changed curricula based on market needs or changes in teaching staff, setting up apprenticeships, and visiting the workplaces, which take much time of students, and the need to change some laws and regulations, and so on; so that most of the colleges and workplaces have been independent of each other and tried to integrate them together regardless of spatial dependencies and location-based strategies, while they have neglected the spatial association of educational places with workplaces, particularly revision of spatial connections and design of educational spaces based on these new models. On the other hand, most of the conducted studies have paid attention only to design of colleges according to climate or study on the effect of physical dimensions of educational facilities such as dimensions and properties, light, color,
4- Research objectives
4-1- Overall objective
 Development of criteria for designing the architecture of Sama Technical and vocational colleges based on an approach of integrating educational and work spaces

4-2- Specific objectives
• Identifying the strengths and weaknesses of existing technical and vocational colleges on the basis of new approaches to integrate work and educational spaces;
• Feasibility of integrating the work and educational spaces through spatial strategies in various urban regions, the surrounding land uses and structure of these college;
• Identifying the damages and opportunities for integrating the technical and vocational colleges with work places through spatial strategies and finding that these strategies are suitable for which disciplines;
• Offering the optimal models for spatial diagrams in architectural design of Sama technical and vocational colleges based on approaches for integration of educational and work places in several disciplines such as architectural drawing;
• Survey of students and utilizing their full participation in developing an optimal model of integrating the educational and place;

5- Research hypotheses
What characteristics should have the architectural design criteria of desired models in Sama technical and vocational colleges based on new approaches to integrate work and educational places, and how they can be developed?
What are the rules and requirements of per capita, adjacent land use, size, infrastructures, safety and other laws of Sama Technical and vocational colleges to implement the approaches of integrating the educational and work places?
How the feasibility of implementation and sources of funding are met for each spatial strategy?
How are the desirable models of spatial diagrams for structural architecture of Sama technical and vocational colleges?

6- Research methodology
6-1- Type of study, method and conduct of research:
A range of qualitative and quantitative research methods will be used according to various objectives and aspects of research.
6-2- Data collection tools
The documentary study, field observation, qualitative interviewing, focus group discussion with audiences and eventually survey through a questionnaire are among the data collection methods in this research.
The information of this study is based on the study of books and articles and conducted research on relevant fields. The theoretical and library studies have tried to investigate the factor affecting the educational success on addition to physical spatial causes which are effective in educational success.
6-3- Statistical population, sample size, sampling and data analysis methods
Spatial diagrams and the way of connection are extracted by technique of comparable design which is among the qualitative research methods. The stages of comparable design technique include the selection of Sama technical and vocational colleges in province and assessment of their strengths and weaknesses based on the approach of integrating the educational and work places, the typology of samples, extraction of connections, and spatial diagrams at town, district and surrounding land uses and building. Furthermore, the participatory approaches are used to assessment and provide models.
Sampling has random cluster method. The interviews are designed and implemented by open and exploratory way. Data is analyzed by questionnaires or interviews in the form of descriptive and inferential analyses and through parametric and nonparametric statistics by SPSS software. In spatial analysis, the database is designed for Sama technical and vocational college, and ARC GIS software is operated for analysis, and finally the comparative methods are utilized to provide the rules and regulations in design the architecture of optimal models.

7- Discussion
The identification experience and analysis of different dimensions of plan are among the basic principles of architectural design. In this regard, the main principles including the environmental communication function are among the main constituents of plan.

7-1- Studies of plan site
7-1-1- topographical features
The study on topographical map indicates that Ardabil city is located in Ardabil plain with width of 80 km and height of 1200 meters above sea level. This plain is surrounded by high mountains and the more we go from downtown to margins, the more the height of region is increased and this increase becomes more especially in the west of city.

7-1-2- Building direction
The building direction naturally plays a crucial role in providing some of the thermal requirements of interior spaces. The minimum solar energy in warm seasons and maximum solar energy in cold seasons and avoiding the direct penetration of sunlight to building in warm seasons are among the main objectives of designing in appropriate building direction. Therefore, we should investigate two very important factors called the wind blowing and sunlight systems.

The building direction in east-west direction is appropriate in order to use the dominant summer east wind. To prevent the prevailing winter wind, which has southwest direction, the smaller side of building should be in this direction and we should not embed openings in this part of building. According to the obtained energy of sunlight in southern walls, it can be concluded that these walls gain less energy in summer, and they release more solar energy in winter. Therefore, the building is facing south, and the important spaces of building in this direction. The southeast and southwest walls are more exposed to sunlight in winter than summer and these walls are very important for this climate.

According to the above-mentioned cases, it can be concluded that the building has east-west direction and is facing the east-south.

7-1-3- Natural ventilation based on the climate
Given the heat conditions of summer weather in these areas and their correlation with bioclimatic building table curves, it is found that it is possible to control indoor air by selection of proper building materials. Furthermore, the mechanical ventilation should be used for ventilating the inside air in cold months of winter.

7-1-4- Appropriate selection of materials based on the climate
Materials selection depends on two factors namely the thermal capacity and resistance of materials. Olgyay and Givoni's methods are utilized to determine the features of required materials in cold climate.

Olgyay's method: In cold regions, the thermal resistance of materials should be increased and the western walls and interior parts of building should be built by heavy materials in order to maintain favorable conditions in interior of building.

Givoni's method: In cold regions, the building materials should be taken into account by considering two factors namely the outdoor crisis situations and the optimum temperature. The main objective is to keep the heat inside of building in cold regions; and the thermal resistance of side walls is the main factor in this case. Therefore, the side walls of building should have good thermal resistance to prevent wasting the interior heat of building.

7 2- Trends
The technical and vocational courses have reflected the students' need to practical training and basic education. In other words, the National Council for Vocational Training in England and Wales has offered GNVQs (General National Vocational Qualifications) and NVQs (National Vocational Qualifications).
If training is not applicable in workplaces with adequate supervision, the colleges must provide real workplaces to assess potential students after interview, so that the current skills should be developed through experience as it is called the Prior Learning Assessment (APL).

It is recommended that the number of teaching/learning work spaces should be based on the efficiency according to the use of optimal planning systems and common principles. For instance, it is assumed that acquiring the efficiency of 40% is possible in educational space through 40 hours of weekly training, and this needs 2.5 workspaces.

When the number of workspaces in different teaching/learning groupings is calculated, the net and proper level of standard workspace will be created and it will be along with an extra percent for non-educational/non-learning needs and other cases. The total area (gross) includes the following cases:
- Almost 60 percent for teaching/learning area
- Almost 15 percent for non-educational/non-learning area
- Almost 25 percent for other cases

Fulfillment of educational needs: The fulfillment of educational is among the most important case in all constructed area in each institution and consists of general and specialized training.

7-3- Planning for fulfillment of needs
7-3-1- Grouping the needs

Traditionally, the fulfillment of educational needs consists of four main needs: educational/learning, non-educational, non-learning, and other cases. However, in terms of flexibility and adaptability, it is suggested more overlapping between them. The overall space of different grouping is calculated based on the number of student full-time equivalent (SFTE) using different guidelines for principles in different work categories.

Table 1: Per capita educational space

<table>
<thead>
<tr>
<th>Type of work space</th>
<th>Work space (square meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic training</td>
<td></td>
</tr>
<tr>
<td>Auditorium, with close-up seat</td>
<td>1</td>
</tr>
<tr>
<td>At-desk education in unofficial groups</td>
<td>1.8- 2.1</td>
</tr>
<tr>
<td>Typical desk training/ desk training with performance education</td>
<td>2.3-2.5</td>
</tr>
<tr>
<td>Students education at big desks</td>
<td>2.5-3.00</td>
</tr>
<tr>
<td>Small-scale specialized education</td>
<td></td>
</tr>
<tr>
<td>Information Technology (Commerce)</td>
<td>2.7-3</td>
</tr>
<tr>
<td>Science (non-advanced)</td>
<td>3.0-4.6</td>
</tr>
<tr>
<td>Art and design</td>
<td></td>
</tr>
<tr>
<td>(Studios and design bureaus)</td>
<td>3.2-5.6</td>
</tr>
<tr>
<td>Domestic economy / trade including carpentry, plumbing, electronics, etc.</td>
<td></td>
</tr>
<tr>
<td>Catering, healthcare</td>
<td>4.5-5.6</td>
</tr>
<tr>
<td>Heavy industry (building - welding - repairing engines)</td>
<td>6.5-8.4</td>
</tr>
<tr>
<td>Learning</td>
<td>7.5-8.4</td>
</tr>
<tr>
<td>Library / Resource center</td>
<td>2.5</td>
</tr>
<tr>
<td>Project terminal room if it is appropriate</td>
<td>3.0</td>
</tr>
</tbody>
</table>

7-3-2- Changing the educational needs
7-3-2-1- Growing demand

There is a tendency towards higher education in all developed countries.

The educational courses are performed by various ways, for instance, by the help of information technology, separate learning programs, more detailed planning, more daily, weekly and yearly work hours. This demand should be fulfilled in stronger and more flexible and adaptable buildings.

For fulfillment of non-educational/non-learning needs, the areas for personnel, administration, catering, common areas, student support services with growing importance, services, restrooms and
toilets, and warehouse, the sizes of rooms are selected according to sizes of selected groups after calculating the total area.

The approximate sizes of rooms for target groups are carefully studied, and there always has been a wider range of sizes and also smaller groups than teacher's imagination. We should avoid designing spaces for just an application. There should be minimum numbers of lecture stairs halls. The building users should be encouraged to take care of space and facilities because if there is constant control, it will possible to make next changes and obtain more demand.

7-3-2-2- Summary of project

The project summary process should not be quickly led to definitive solutions, but it should raise questions to keep pace with progress. Similarly, the architect should enter into dialogue with users and also the surrounding population as much as possible. It is not useful to prepare the project summary by an anonymous consultant.

7-3-2-3- Project Management

Due to the project progress under an advisory committee composing of academic, social, physical and financial parties, there should be a certain decision-maker who controls the monetary affairs.

7-3-2-4- Investment appraisal

There should be an approximate appraisal of total expected expenditure of new buildings including the current and maintenance costs. There should be the monetary committees which control the loan processes and the institutes which provide an approach to fulfill the needs according to the changed numbers of students, new educational courses, and educational methods for investment in project along with a long-term appraisal of investment with highest value.

7-4- Project advances

- The location and buildings should be developed in a way that the business contacts are easily applicable between various facilities.
- We should cover the departments which need a center for different spaces to share together and allow departments to carry out or develop their activities using these shared spaces at lower time.
- We should avoid planning and scheduling the rooms with only an application.
- The rooms should be grouped and specific tasks should be provided through furniture and service with easy alternative power in order to provide alternatives.
- Ensure that the buildings have suitable rooms with different sizes for various educational groups at different training courses with various training methods.
- Dividing the planned activities throughout the hours of day, week, semester and year so that the maximum unnecessary concentration of activities is avoided. Remember that the hours of activities in non-educational areas can have an important effect on plans.

7-5- Summary

Due to the constantly changing nature of educational process variable and the need for buildings, which are able to fulfill the students, personnel, state, and industrial needs, the college designers should reconcile a series of creative tensions.

- **Centralization and non-centralization**
  
  At what stage should we make decision? If funding is done by central authorities, whether users of buildings are considered in their design? Does a firm have much commitment to building by its monetary capital?

- **National standards and individual needs**
  
  The use of spatial criteria should be retained for detailed design works, but they should not be too detailed to prevent new procedures.

- **Long-term and short-term**
  
  The buildings should be taken into account for themselves and their long-term goals, but students use them only for short time use. The administrative and academic staff may use such these buildings for 20 to 30 years. The designers should consider the flexibility of short and long-term attendance in order to meet these broad models for individual attendance.

- **Independence and cooperation**
In new free market, there is a risk that the temporary and unusual subjects are excluded from curricula along with concentration of institutes for attracting the students and more money. Designers need to be sure that the institutes are able to supply their choices for students.

✓ **Trade, education and education:**

There is a risk that some institutes are more involved with monetary issues, so that the education goes backward compared to business issues and short-term industrial programs. The first educational task of a building should not be forgotten.

✓ **New experience and technologies**

The teachers, especially in professional sector, may have industrial affiliation, but they may not be aware of modern techniques. The buildings and facilities should provide spaces where the experienced professionals do their best for students.

This research designed a questionnaire for assessing the impact of creating the workplace in Sama technical and vocational college in Ardabil and distributed among 100 students. The results of statistical analysis are as follows:

1. 100 students (100%) were satisfied with study and real work education at the University.
2. 82 students (96.5%) agreed with a space to work at Sama University in order to improve students' skills.
3. 75 students (88.2%) thought that work space at university would attract students' participation in the team working.
4. 84 students (98.8%) had this idea that teaching the work and education at university would increase the incentive to continue education.
5. 81 students (95.3%) had this idea that the integration of theory with work space at university would increase students' recognition of workspace.
6. 76 students (89.4%) had this idea that the new approach of integrating the work with training would improve the quality of teaching space.
7. 79 students (92.9%) were in favor of integrating work with training at universities in order to create a context for young people's employment in their countries.
8. 73 students (85.9%) had this idea that the integration of work and education spaces at university would attract more students to university.
9. 76 students (89.4%) agreed that integration of work and education would help to understand more of jobs.
10. 81 students (95.3%) agreed that creation of real workplace at university would provide impression of workplace and experience.
11. 78 students (91.8%) agreed that creating workplace at university would create more familiar with professional tools.
12. 79 students (92.9%) thought that creating workspaces at university would cause mental preparation in students outside of university and in their jobs.
13. 78 students (91.8%) had this idea that creating workspaces at university would implement doing activities with teacher.
14. 81 students (95.3%) agreed that creating workspaces at university would lead to more recognition of students in terms of their interests and skills in profession.
15. 77 students (90.6%) agreed that creating workspaces at university would increase the student's ability to solve problems in the workplace.
16. 81 students (95.3%) stated that working at university would enable the student to acquire skills and high precision at work.
17. 81 students (95.3%) had an idea that the business insurance for students experiencing working at university would create incentives for their skills and ensure their work future.
18. 77 students (90.6%) agreed that the designed university space by new approach could be a step to enhance students' creativity and ability.
19. 74 students (87.1%) agreed that the design of university spaces by new approach could increase understanding of various technical professions.
20. 43 students (50.6%) had this idea that the university could increase the students' creativity without establishing the workspace in education.

According to results, most of the students agree with establishing the workspace at college. Therefore, the creation of workspace in the form of workshop and attending Sama technical and
vocational college can be a step to progress of educational objectives and increase in students' creativity and skills.

**CONCLUSION**

The status of technical and vocational colleges, removing the restrictions and making any necessary modifications at colleges and community are among the necessities. Obviously, the current limitations can be overcome by taking measures for improving the status quo by college authorities as well as considering the approaches to develop the status of technical and vocational education in community as well as mechanisms for optimal use of graduates by governors in their macro and micro decisions. According to educational experts, the efficiency of these modifications, on the one hand, depends on development of infrastructures facilitating the technical and vocational measures in community as well as promoting the quality of belief and mentalities in society about increasing importance of technical and vocational education in sustainable development, and on the other hand, depends on taking intelligent measures in women's participation as the precious human capital in any society. The set of decisions by authorities at colleges and also the governors should have the quality-based, vision-based, collective, requirement-based and locality-based principles, and also lead to achievement for girls and boys. Obviously, these decisions and their consequences, the improvement of current status at these colleges, and the college graduates' position can play the effective role in dynamism and fulfillment of needs of industrial, service and agricultural sectors. The evaluation of outcome quality at colleges and then determined status quo are the logical and basic steps in understanding the current conditions, making necessary decisions and creating modifications. However, it should be noted that the evaluation is not the end point, but it is an appropriate starting point for intelligent movement. In fact, the creation of necessary conditions for achievement of this principle (planning based on the evaluation and research results) can lead the technical and vocational education system towards development of comprehensive evaluation system and promise the continuous quality improvement in this system.

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THE GUIDE TO ASSESSMENT OF RENOVATION AND MODERNIZATION PLANS ON WORN OUT TEXTURE FROM PERSPECTIVE OF SOCIAL STUDIES AND ITS IMPACT ON PHYSICAL FEATURES (CASE STUDY: WORN OUT TEXTURE OF ARDABIL CITY)

Hamid Lotfollahian  
PhD student, Gazi University of Ankara  
hamid_19732002@yahoo.com

Solmaz Namadieslam  
Faculty member at Sama Technical and Vocatinal College, Sama technical and vocational training college, Islamic Azad University, Ardebil Branch, Ardebil, Iran  
s.namadieslam@yahoo.com

ABSTRACT  
Nowadays, it is essential and serious to conduct deep and efficient social studies and build thematic applied indices for designing the renovation and modernization plans of worn-out urban texture particularly empowering them, so that the implementation of any plan to rebuild the worn out texture will not lead to effective result without attention to its social studies. Modernization and reorganization of historical and valuable texture in Ardabil City promotes the quality of urban environment and life conditions and reconstructs the atmosphere of thought, reflection and interaction between human, society and the environment due to the hidden and enduring architectural values of some buildings, public spaces and also the other cultural and social values within it along with central and peripheral worn-out textures of city. According to social research assessment of worn out texture in Ardabil City, there has not been serious attention to social issues in these studies. The research findings indicate that there is a need for attention to social diversity, institutions, rules and behavior, and public participation in order to implement the urban planning in these textures.

Keywords: Worn out texture, renovation and modernization, social studies, physical features

1. Introduction  
The renovation and modernization of worn out textures in Iran have been considered since it has been difficult to live in most of the central and middle textures of cities from physical, structural, environmental and social aspects, and the residential conditions in these textures have not been consistent with needs of current life; and there have been inefficient current functionality of these internal elements (i.e. human and activity) with each other and also with other relevant elements (in entire city). The outcome of this issue is seen in the form of textures with unacceptable and low-value social status in cities. The key features of these textures include their vulnerability to incidents such as earthquakes, lack of path and access grid, lack of proper access to public service, lack of open spaces, the inadequate sewage disposal, etc which totally introduce the unstable quality of urban life and unhealthy texture.

The importance of social factors and the need for conducting social studies and its effective links with other categories of urban development plan is obvious in urban studies, but the social research sector of numerous urban plans is practically stopped at the stage of status quo investigation and remained as the abstract studies separated from economic studies, transportation, municipal utilities and physical studies. However, the desirable and considered urban planning should study the interactions between variables and specific results of each study for other aspects of urban studies and
topics. Furthermore, the stability and development of urban community is one of the important basic principles of sustainable development, and this is dependent on sustainable social development and the status and function of city in national and regional spaces because the access to sustainable development is provided only by social sustainable growth. Unfortunately, a majority of our urban plans are implemented based on urban information and a series of geometric accuracy and aesthetic edits and share tables and determination of per capita and finally drawing the map and present and future criteria of a city, and there is too few deep and profound studies on social issues.

Nowadays, it is essential and serious to provide renovation and modernization plans for worn out urban textures especially by conducting deep and efficient social studies on empowerment and building applied indices, so that the implementation of any plan to rebuild the worn out textures will not become successful without more attention to its social studies; and in other words, it will lead to loss of power and energy in the community. However, there has not been any logical and significant correlation between social studies and final projects provided by consultants according to description of service and projects for worn out textures, and this can lead to irreparable problems for city and its citizens.

In fact, the data should be generated in assessment of social impact of projects in order to measure the social local success in improving the lifestyle achieve the skills due to the implementation of plan as an approach to social studies on worn out texture. Furthermore, this data should be utilized to measure the improvement of existing institutions and their performance. It should be noted that we are seeking to collect the fundamental and necessary data, based on which we can evaluate and measure the project after implementation, in this article.

With an ancient history and religious, cultural, environmental, tourist, etc values, Ardabil city is among the cities where we cannot ignore the worn out central regions and valuable collections, and we should undoubtedly try to protect and promote those values.

2. Importance and necessity

The urban plans of Iran do not pay serious attention to social dimensions and this reduces the success of these plans. Therefore, it is necessary to evaluate the social dimensions of studies on renovation and modernization plans in order to identify the weaknesses of studies on worn out textures in the field of social aspect and prevent them in future plans.

3. Literature review

The city is like a container including the citizens with their relationships, needs, demands and interest. The citizenship rights, a sense of safety and security, sense of self-existence and living with others, etc all creates a space called the civil court in city. A direct relationship is established between urban body and soul in such this court [1].

Due to the severe problems in urban historical textures such as environmental pollution, traffic problems, unsafe roads and loss of spatial quality in texture, the increased psychological pressure, etc in recent decades, the scientific communities and officials have made policies to take steps towards renovating and modernizing these areas, for instance, drawing and providing the guidelines for spatial continuity in these textures as well as expanding the pedestrian areas in the forms of alley, market, small markets, a path in square, park or space of complexes as well as creating a place for renovating these areas. The significant impact of these textures on issues such as demographic and social, economic, and infrastructural issues and urban service is among the most important issues which require attention to worn out textures. A numerous worn out textures are extremely vulnerable to natural disasters and faced with physical deconstruction due to the use of old and low cost construction materials in terms of physical strength. These textures become worn out and lose their urban functions over time [2].

The central urban textures, where are mostly built without previous plans, have irregular structures and they can be often accessed by walking, so that most of their paths are dead-end with widths less than six meters and low permeability coefficient. The service, infrastructures, and open, green and vertical spaces have serious deficiencies [3].

On the other hand, these textures have fundamental deficiencies due to the age and in most of the cases the worn out structures and lack of essential facilities and service for today's urban life in
fulfilling their citizens' needs. Therefore, there is a need for purposive intervention, maintaining the identity of central texture, and its evolution and dynamics in order to maintain the urban structure. Therefore, the urban issues cannot be solved unless the citizens' needs, desires and attitudes are identified in contemporary world; and the issues cannot be identified unless the research is conducted. The social research can be used for policies of planning social, housing, education, health and so on. The awareness of public needs and problems and their attitudes towards their roles in solving the urban problems has made an appropriate basis for logical and proper communication between service institutions and citizens. Furthermore, the citizens' trust in urban renovation plan can affect the provision of economic resources, reduced service costs, increased social cohesion, reduced damages and stresses of urban life and citizens' satisfaction [4].

4. Research objectives
   1- Collection of data from area in order to provide monitoring and evaluation of economic and social impact on this area;
   2- Identification of existing social issues such as housing, rights of property or lease of land, infrastructural issues, and social service;
   3- Identification of needs and priorities and existing social capacities;
   4- Identification of smaller projects to improve the capacity of local institutions;
   5- Providing a plan for participation of stakeholders in project implementation;
   6- Establishment of social evaluation and monitoring approach to social studies on worn out area;
   7- Providing strategies to solve existing shortcomings in national urban planning system in relation to social issues;
   8- Providing strategies to strengthen the impact of social factors on planning for worn out textures;
   9- Developing the social vision in planning for worn out textures;
   10- Offering suggestions for optimum use of social factors in planning for worn out textures;
   11- Achieving a favorable social development in cities

5. Research questions
   - Do the social studies have rightful place in planning for worn out textures in our country?
   - Is it possible to strengthen the positive effects of social factors on planning for worn out textures by some strategies?
   - Does the current study on social contexts of worn out textures solve the problems of these textures?

6. Research hypotheses
   - It seems that the needs, capacities and socio-cultural and physical priorities of worn out textures are not clearly studied in accordance with conditions of these textures.
   - It seems that the social studies do not have proper position in planning for worn out textures in our country.
   - It seems that the positive effects of social factors can be strengthened on planning for worn out textures by some strategies.

7. Research methodology
   Three data collection methods have been taken into account in order to achieve the aforementioned objectives:
   • Review of books, papers, document, and reports of the Management and Planning Organization, Municipality, Governorate, Department of Social Welfare, University, Education system and ...
   • Quantitative methods: The questionnaire has been as the main data collection tool in this section.
   • Qualitative studies which have focused on techniques such as in-depth interview, concentrated group sessions, observation and survey of public facilities.

8. Theoretical principles of research
Plato, Aristotle and al-Farabi were those who talked about ideal city and measures based on solving the city residents' physical and spiritual needs by cooperation and consultation with citizens. Those measures were like the practices which are now called the urban renovation and modernization. These measures include: Integration of old and new projects; quick and easy access to different regions of city; providing easy access to life necessities such as food and clothing; organizing the trade and communication; appropriate location and proportionality of public spaces in city; organizing the construction of urban structures, and providing the affordable housing for low-income residents, etc. [5].

Nigel Thrift refers to five basic concepts in class analysis: Class structure, formation, struggle, capacity and awareness. He claims that the role of geography has not taken into account in class analysis. For instance, Wallerstein et al have made class analysis at the global level. Class analysis of class structures is also a common way, and numerous class national geography and class analyses at the regional level [6].

Doreen Massey has paid more attention to the role of reproduction relations particularly gender relations in class structure in his book entitled "Spatial divisions of Labor". Furthermore, Massey believes that the social hierarchies have a spatial form, and there is a clear correlation between social and spatial differentiation [7].

There is a complex interaction between different areas of life, social reproduction and class relations. Urban space is related to reproduction of capitalist class in different ways. Capitalism is a tool for delaying the crises of increased capitalist accumulation in a human-made environment. The residential segregation leads to the further isolation of classes and their various branches and creates an environment which fuels the working class subculture and structures them alongside the boundaries of ethnicity and skill level [8].

D.T. Herbert believes that the distribution of deviant behavior has a static correlation with certain characteristics of spatial and social environment, so that the residential area can be a valid index for different social groups. It is true that some forms of deviance have dispersed spatial forms, but the deviance is typically concentrated in certain parts of city. The spatial distribution of deviance cannot be predicted only from the deviant social groups and spatial arrangement of these groups, but also the spatial characteristics of environment play roles in understanding the geographical distribution of deviant behavior [9].

in comparative pathology ecology discussion in city, Shakuie has considered a certain and reliable relationship between distribution of diseases, and triple physical, mental and social factors with air and noise pollution, pollution density, and people concentration in the room and residential unit, economic status, poverty, unemployment and illiteracy, non-standard and unsafe housing units. He has considered the knowledge about correlation between physical conditions of environment as the major task of studies on comparative ecology [10].

9. **Introduction of studied area**

The worn out textures of Ardabil City are limited in five separate regions. These areas have wide differences with each other in terms of spatial and temporal characteristics of creation and physical, social, economic, etc features. Figure 1 shows the location of all five sectors in the whole city.
1.9. Introduction of central and historical areas

This region with an area of 371 hectares includes the highest level of worn out texture and consists of both historical and central textures. The first region is the geometrical and spatial city center and is in fact the primary core of its formation and almost covers the entire range in zero ring (Enghelab, Sheikh Safi, Pasdaran, Jomhuri Eslami and Khoramshahr streets). The existence of Ardabil market (Bazaar) and historical sites including Tabar, Ali-Qapu, Ochdokan and ... and also the existence of elements such as Sheikh Safi al-Din Khânegâh and Shrine Ensemble and Jome Mosque hill inside it are the main features of this space.

The second region of central area is a semi-organic texture formed around the primary core; and the worn out texture is limited as a sector towards the north and south of this core. This texture is resulted from the urban growth contemporary era and is the outcome of transition from organic texture to regular and semi-regular urban texture (Figure 2).

2.9. Pirmadar neighborhood

This region is located at the southern edge of Balighu River in the southeast of central texture and has an area of 29 hectares. Pirmadar neighborhood is also an ancient neighborhood of city and is among the first development of historical texture in contemporary era. This area is limited to Abu Taleb Street in the east, Shohada Highway in the south, Shahid Purrahimi Street in the west (Figure 3).
3.9. Kashani estate

This region with an area of 23 hectares is among the suburban areas and located in northern margin of second ring road (Basij highway) in the east Ardabil. This area is ended in Razi St. from north, Niar Road from south, and 35-meter Fajr St. from the west. The establishment of non-durable buildings and its irregular and non-standard grid are among the features of this area (Figure 4).

4.9. Jamshidabad and Abbasabad districts

This region is located at the southern entrance of city (Khalkhal road) and in the both sides of Besat Street and covers a part of both Jamshidabad and Abbasabad neighborhoods. This region has irregular textures with use of poor and non-durable materials in building, and the western side of street has better situation than the eastern. The overall area of this region is 80 hectares (Figure 5).

5.9. Jajin neighborhood

This region with an area of 33 hectares is located in the south of city and is among the most expensive lands in Ardabil city. The general features of texture are as follows:
- Very irregular texture
- Inadequate and non-standard access
- Irregular establishment of parts in all directions
- Establishment of low and non-durable buildings in the area (Figure 6).
10. Research results
1.10. Family stay in plaque

The history of residence in the neighborhood is an index which indicates the neighborhood social status in terms of ethnic and cultural change. The residence history is the most representative of residents' homogeneous social composition and their belonging to residence in that neighborhood. The long stay in the neighborhood will remain memories in the minds and it is difficult to leave them, and this can strengthen belonging to the neighborhood. In neighborhoods with low history of residence, the social texture is heterogeneous, ethnic diversity is high and possibly the attachment to environment is low, and leaving is easy. All these factors make a neighborhood as a container which constantly becomes full and empty and it is not easy to plan for it.

1.1.10. Areas (1, 2, 4): Worn out texture without historical heritage

Based on the conducted field studies in studies area, 92 questionnaires are distributed and 42.7% of residents have had over 20 years or from 10 to 20 years of residence which is a high percentage and indicates belonging to the neighborhood. 4.16 percent have had less than 6 years and about 3-6 years of residence. 11.45% from 6 to 10 years, 9.37% from 1 to 3 years, and 26.04% have had more than 10 years of residence. Diagram (1) shows the history of residence in this area.

Diagram 1: Investigation of household' length of stay in studied areas (1, 2, 4)

2.1.10. Area 3: Worn out texture with historical heritage

52 questionnaires are distributed in studied area and 59.61% of residents have had a living history of more than 20 years and from 10 to 20 years of residence as the high percentage indicating belonging to neighborhood. 1.9 percent of them have had a history of less than 6 years and about 3-6 years. 9.6% from 6 to 10 years, 9.6 percent from 1-3 years, and 12.38 percent more than 10 years. Diagram 2 shows the household' length of stay in area.

Diagram 2: Investigation of household' length of stay in studied area
2.10. Desire to modernization and renovation

1.2.10. Areas (1, 2, 4): Worn out texture without historical heritage

Among 92 respondents to questionnaires in studies area, if most of the respondents (58%) or 60.41 percent are householders, they will be willing to do renovation and modernization, but 34 ones or 35.41 percent will have no desire to modernization (Diagram 3).

Diagram 3: Investigation of householder’s willingness to modernization in studied area (1, 2, 4)

2.2.10. Area 3: Worn out texture with historical heritage

Among 46 respondents to questionnaires in studies area, if most of the respondents (29 ones) or 55.76 percent are householders, they will be willing to modernization, but 17 ones or 32.69 percent will have no willingness to modernization (Diagram 4).

Diagram 4: Investigation of householders’ willingness to modernization in studied area 3

3.10. Measures to modernization

1.3.10. Areas (1, 2, 4): Worn out texture without historical heritage

Among 67 respondents to questionnaires in studied area, if most of the respondents (29 ones, or 30.2%) are householders, they will be willing to build their own residential units according to plan in the case of receiving banking loans. While 5 respondents or 5.2% are willing to give their units as the contribution in the case that the construction costs are paid by an investor. 2 respondents of 2.08%
are willing to give their units as the contribution through holding the local cooperatives and receive the equivalent figure after renovation. 13 ones or 13.54 are willing to sell their units and leave the area, and 16 ones or 16.66% are not willing to cooperate or sell the units (Diagram 5).

Diagram 5: Investigation of measures for modernization in studied area (1, 2, 4)

2.3.10. Area 3: Worn out texture with historical heritage

Among 29 respondents to questionnaires in studied area, if most of the respondents (16 ones, or 30.76%) are householders, they will be willing to build their own residential units according to plan in the case of receiving banking loans. While 1 respondent or 1.92% is willing to give his unit as the contribution in the case that the construction costs are paid by an investor. 1 respondent or 1.98% is willing to give his unit as the contribution through holding the local cooperatives and receive the equivalent figure after renovation. 5 ones or 9.61 are willing to receive the alternative residential units or lands equivalent to their residential units or lands. 2 ones or 3.84 are willing to sell their units and leave the area, and 4 ones or 7.69% are not willing to cooperate or sell the units (Diagram 6).

Diagram 6: Investigation of measures for modernization in studied area 3

4.10. Utilization of loan for renovation

1.4.10. Areas (1, 2, 4): Worn out texture without historical heritage

Among 96 respondents in area, 28 respondents or 29.16% used the loans of banks or interest-free funds to renovate, build or purchase their houses, and 68 respondents or 69.79% never used the loans (Diagram 7).

Diagram 7: Use of loans to renovate in studied areas (1, 2, 4)
2.4.10. Area 3: Worn out texture with historical heritage

Among 45 respondents in area, 28 respondents or 53.84% used the loans of banks or interest-free funds to renovate, build or purchase their houses, and 17 respondents or 32.69% never used the loans (Diagram 8).

Diagram 8: Use of loans to renovate in studied area 3

11. Conclusion and offering the suggested strategies

With regard to the participatory capacities, low levels of household income, poor urban infrastructures and service, improper physical condition of buildings, etc, the following strategies are offered to empower the inhabitants of such these settlements:

- Making the infrastructure for public participation in City Council;
- Drawing the modernization and rehabilitation projects for worn out textures by public participation
- Creating the perfect support to get banking facilities by revising the current assignment of loans;
- Reviewing all laws and regulations limiting the low-income people's access to official credit and loans;
- Solving the legal gaps in cooperation between the decision making entities in renovation of worn out textures particularly the Cultural Heritage Organization, the construction and renovation organization, and local management entity (council and municipality) as the most effective organizations involving in renovating and modernizing the urban worn out textures;
- Creating the deputy for organizing urban worn out textures in cities with this issue in a way that other local governmental bodies are obliged to cooperate and coordinate with it;
- Giving the responsibility of preparation and adoption of renovation plans for worn out textures to local urban management in order to make the process of plan preparation and adoption participative;
- Special help to create communal spaces (cultural, leisure and sports) in existing settlements;
- Use of sports groups, religious organizations, and female associations to organize public participation;
- Increasing the citizens' awareness of worn out texture modernization and renovation issues and taking efforts to create awareness and sensitization through training by local institutions such as local Basij and council;
- Taking efforts to establish mutual trust between citizens and municipal administration so that the citizens can be a starting point for empowering residents in such these settlements.

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