ABSTRACT
The explicit knowledge is the knowledge that has been systematized, properly structured and codified and ready to be used. On the other hand, the tacit knowledge is the knowledge that is very difficult to understand, not codified, and hard to measure. Despite of their differences, both knowledge play a vital role in shaping competitive advantage. Nevertheless, managing of these two forms of knowledge to drive the process of innovation is not an easy task. Hence, this paper is written based on philosophical constructivism viewpoint which discusses the common dilemma faced by the organization in managing tacit and explicit knowledge in the context of Diffusion of Innovation (DOI) theory.

Keywords: Innovation, DOI, tacit knowledge, explicit knowledge, knowledge delivery

INTRODUCTION
The Diffusion of Innovation (DOI) is a theory that discusses how innovation can be communicated and delivered through ideas, new knowledge and strategic information so that innovation can be implemented, then transferred to implement and carry out the innovation process successfully. Whereas, the innovation itself from the modern perspective is an effort and process to implement the new ideas to add value to the organization, thereby supporting the organization's reform from a status quo condition to a more dynamic new situation. The process of innovation involves the effort to create innovation in the services, systems, processes, and also improvising operational aspects.

There are several definitions of innovation. Among them, Rogers (2003) defines innovation as an idea, practice, or object that is considered new by individuals or units which involves the creation of new knowledge and dissemination of existing knowledge. Boer and During (2001) defines innovation as a process of creating a combination of product-market-technology-organizations. Meanwhile, Covin and Slevin (1991), Lumpkin and Dess (1996), suggest innovation as a process of providing added value and novelty to the organization, supplier and customer, developing procedures, solutions, products and services including new ways of executing marketing strategy.

Generally, the process of innovation involves the creation of new ideas, improvements, and updating the ideas and after that forming a new knowledge by the organization which will then be transferred and implemented in a teamwork arrangement to achieve certain objectives set for a positive change. The objective of innovation is usually aimed to enhance effectiveness, productivity, quality, competition, and market share that ultimately boost the overall organizational performance. Innovation is a common ongoing process of the dynamic organizations. To achieve optimum efficiencies, an innovation must be disseminated so that individuals within and outside the organization can understand the aspirations, objectives and importance of innovation because the level of innovation acceptance for each individual is different from each other due to the different factors and interests of each individual. The spreading of innovation is made through the conveyance of ideas and knowledge that will go through several stages and phases using internal and external organizational communication systems of the organization. However, the spreading of innovation
requires some important elements as booster to encourage the culture of innovation in the organization. According to Hussain et. al. (2017) there are four elements needed in order to implement more effective innovation through extensive involvement of employees as way to avoid the possible problems on 'resistance to change attitude' in the future which are the elements of power, information, knowledge and skills, and remuneration.

Meanwhile, Rogers (1983) stated, there are five stages of processes in disseminating innovation in the DOI theory that must be exercised by those who adopt innovation which are knowledge, sequence, decision, implementation and validation.

**Knowledge Stage**
According to Grant (1977), professionals and academicians have recognized that knowledge is the key to competitive advantage. Before innovation can be disseminated, knowledge needs to be acquired by the innovation adopters. In this regards, individual is exposed to new ideas and knowledge regarding what innovation is to be implemented, and how such innovation affects the continuity and sustainability of each individual and the organization. At this point, the individual has a basic idea of how it works. According to Rogers (2003), the earliest individual who know about such innovation tend to have an inclination towards education level, social status, exposure to mass media, good interpersonal communication networks, and good social involvement and more urbanized compared to those who are late adopters of innovation. However, the recipients of the knowledge not necessarily receptive to the idea of innovation that have been articulated to them, as individual attitudes also influence the decision whether to accept or reject the suggested innovation (Ismail, 2006).

**Persuasion Stage**
The spread of innovation often takes time before it can be accepted and adopted. There is no certain period of time that can be determined except in a forced state. Through the knowledge and ideas presented, individual at this stage will form the attitude of accommodating or rejecting the idea of innovation based on individual or group judgment. Hence, the campaign or persuading process of innovation should be carried out continuously by initiators or innovators. According to Rogers (2003), when it comes to accepting the innovation, it will create an 'impression of dissemination' in which an individual or organization that adopts the innovation will put pressure and encouragement on others to agree on such a move.

**Decision Stage**
For Rogers (2003), individual or organization that choose to accept and adopt innovation, will make full use of such innovation. Such individual or organization will adapt and adopt, equip him with new knowledge and change the appropriate way of work. Rogers (2003) also states, whether to accept or reject innovation, both of these conditions will create the effect of 'uncertainty'. To minimize the impact of this 'uncertainty' atmosphere, whoever involved needs to be explained clearly on the possible benefits and weaknesses of the suggested innovation.

**Implementation Stage**
Individual will use innovation as something new or as addition to the existing one. At this stage, the implementation of innovation will create a feeling uncertainty risk about the results of such innovation. In order to minimize the doubt and uncertainty including possible risks, innovators and implementers will create alternative plans as support if innovation fails because not all innovations are appropriate for all organizations (Townsend, 2010). This support plan acts as to to ensure the spirit of innovation among employees will not be vanishing in the event of failure. According to Canner & Mass (2005), motivation for innovation is triggered by a pressing situation to ensure that the organizational operations are running smoothly, rather than creating a creative environment solely. This proposition suggests the resulting innovation as a result of a desperate situation will reduce the risk of probability that the innovation ideas to be considered as negative attempt.
Confirmatory Stage
At this stage, the innovation decision has already been finalized and the individual who received the innovation requires full support from colleagues and management with such decision. According to Rogers (2003), what is needed is the formation of positive attitudes through the necessary support because, without support, the individual will tend to turn around and reject the innovation from continues. Rejection can be attributed to some situations; first, there is better innovation; second, there is discontent on the innovation performance; and finally, the innovation does not achieve what is expected by individuals. In this process, the transfer of new knowledge will take its role to bring about full adoption of innovation.

In summary, the stages in the DOI theory that demonstrate individual innovative behaviors are as follows:

![Figure 1: The Diffusion of Innovation Process (Rogers, 2003)](image)

Following the knowledge as a key pillar of innovative behavior, this article will focus on the aspect of delivery of the innovation ideas and new knowledge in the DOI theory as it is the most important aspect of this theory.

THE PROCESS OF KNOWLEDGE DELIVERY
In the DOI theory, the most basic process begins with the delivery of knowledge including that of the new ideas that have yet to be implemented but will be developed (Rogers, 2003). This knowledge delivery refers to the sharing and dissemination of knowledge while at the same time providing inputs for the resolution of an issue (OECD, 1996). Argot & Ingram (2000) defines the knowledge delivery as a process of which, a unit is impacted with the experience of other units. While in the context of organization, this term refers to the knowledge delivery from one part to another in the organization (Epple, Argote, & Murphy, 1996).

The knowledge delivery encompasses the vast and dynamic knowledge management. Knowledge in the organization will shape the organizational "wisdom" and therefore, it will be able to help organization to improve some aspects of the organizational decision-making, innovation, achievement and sustainability (Brown and Duguid; 2000, Nonaka and Takeuchi, 1995; Davenport and Prusak, 1998). Moreover, it is also a very critical requirement of organizational performance (Von Krough et.al, 2000).

The knowledge delivery in the context of innovation is a knowledge-intensive business process (Nonaka and Takeuchi, 1995) that requires the organization to continuously update the relevant knowledge (Slater and Narver, 1995) and for that purpose, the organization also need to combine both old and new knowledge together (Cantner, Joel, and Schmidt, 2011) so that the development and continuity of knowledge related to innovation can be evaluated and compared in terms of its advantages, weaknesses and achievements to the organization as a result of the adoption of such innovation.

MANAGEMENT DILEMMA IN THE PROCESS OF KNOWLEDGE DELIVERY

Idea Filtration
Overall, the basic assumption of DOI theory is all innovations are productive and need to be adopted (Rogers, 2003). However, this theory does not suggest how idea filtration for innovation should be done (Miles, 2012). Innovation also has great tendency to contribute negatively to several apprehensions in organizational management, especially ethical issues.
There are two approaches in the process of knowledge delivery; first, the knowledge to be delivered including the new knowledge and ideas; secondly, the knowledge that has been perfected in the form of complete manual to be executed. In DOI's theory, David does not emphasize the latter, but rather the former which is, the knowledge delivery including new ideas in unclear conditions whether it is practical or otherwise.

If we take the first approach, then, it should be stressed that there are innovations that either appropriate or contrary to be initiated by the organization from the aspects of moral, ethical, productivity, economic value, and so forth. Innovation will probably increase the effectiveness and efficiencies of the technical facets by making things right. However, according to Tan (2004), innovation also has the possibility of subtracting the allocative efficacy from making things in the accurate way. For example, innovation may increase efficiencies in terms of cost and time, but at the same innovation may also likely to cause an issue of price increases to users and simultaneously lead to job layoff such as the use of labour replaced by the mechanical and robotic equipments causing human capital to be decreased for cost saving and maximum utilization of people forces that may lead to other social and health problems. However, in the context of competitive aspects, the predicament may take place if the competitor has the potential to exploit such knowledge to the extreme in one way or another and subsequently distance the organizational competitiveness to a difficult position. Hence, the phases of idea filtration in the process of dissemination of knowledge becomes very difficult to be executed by the organization due to the rigorous idea filtering process will stave off innovation and growth efforts, but if there is no idea filtration in the least or a very loose, the management has a tendency to engage in ethical-related issues in carrying out innovation, thus causing many organizational aspects to be adversely affected such as reputation, productivity and organizational growth.

**The Knowledge Dichotomy in DOI**

In the modern innovation process, the knowledge that is easily transferable is the knowledge in the explicit form. It is a knowledge that involves 'know-how' that can be delivered in a formal form, having a systematic language, and does not require direct experience of such explicit knowledge and can be channeled through clear and specific formats such as manual or blueprint paper (Howells, 2002).

In the DOI theory, the knowledge delivered to the recipient is an explicative, i.e. technically oriented and systematic, and ready to communicate through printed, electronic, or other appropriate mechanisms (Smith, 2001; Rogers, 2003). Whereas, the tacit knowledge in the DOI is considered very difficult to quantify, codify and formalize (Polanyi 1966; Kreiner, 2002) including very hard to communicate (Nonaka et.al., 2000) because of its abstract and hidden nature. Both explicit and tacit knowledge are separated that make explicit more dominant to the innovation process due to its readily available features while for tacit knowledge, researchers are still vaguely looking for the direction how to integrate both knowledge as part of an integrated process of innovation. Continuous research to integrate tacit into explicit knowledge vice-versa in the innovation process signals that the delivery of tacit, its contents, and processes are something that still incomprehensible and unclear.

The tacit (or implied) knowledge is unwritten, unspoken, and unseen that possessed and developed by every normal individual derived from the emotion, experience, insight, intuition, observation and intrinsic information embedded in individual's internalized information (Polanyi, M., 1966; Kikoski and Kikoski, 2004). This tacit knowledge can only be detected through its application that is located in a single or in the minds of individual, who form the structured system, cannot be modified and difficult to transfer between one place or individual to another (Kogut and Zander, 1992).

According to study, tacit knowledge has a greater contribution towards achievement of the organizational competitiveness and it covers 90% of the total knowledge available in the organization (Smith, 2001). Despite its contribution to individual and organization, employees are reluctant to
share their tacit knowledge and this contributes to the barriers to knowledge sharing (Ma, Qia and Wang, 2008) as it requires a high trust element among employees (Casimir, Lee , & Loon, 2012). Because explicit and tacit knowledge has a separate position in the innovation process, therefore, the stuffs that can limit the potential damage the innovation can produce depends only on written guidelines, procedures, policies, laws and other written mechanisms as non-standardized explicit inputs and not fully comprehensive.

Spender (2006) also believes that the creation and delivery of tacit knowledge are still considered superfluous and remains 'black box' for many organizations. In other words, the tacit knowledge transfer is still a 'taboo' for some organizations, and may not directly affects the organizational performance. This proposition is supported by Jo Rhodes et.al. (2008) that claims the delivery of tacit knowledge for the organizational innovation and performance is still vague and has no specific purpose. Polanyi (1996) refers to tacit knowledge as something that cannot be articulated, in fact, it is a knowledge that lies in an intuitive, rational nature, an antithesis to explicit knowledge.

The issue that arises in the innovation process in the context of tacit-explicit dichotomy is the discussion of the knowledge delivery through merely two categories which are explicit through physical form and tacit through the judgment of cognitive, emotion, personal value, experience and individual thoughts and perceptions. The ability of this tacit knowledge can only be ascertained after the implementation of innovation takes place, which is solely dependent upon the individual's ability to think rationally and the capability to identify the threats and potential damages that innovation can create, thereby limiting it. However, the problem arises when not all individuals have similar know-hows and rational motives.

**Knowledge Delivery**

According to Rogers (2003), the knowledge delivery takes place at the very beginning of the innovation process. Innovation can be enhanced through the process of accumulation of knowledge comprising storage, collection, selection, development, and creation of new knowledge. Most literature studies have found that knowledge has a significant relationship to innovation. However, the study of knowledge needs throughout the process of innovation development beginning from the transfer of knowledge to the validation stage in DOI's theory by Rogers is not well known. The issue that may possibly arise is, there are likely to be new explicit and tacit knowledge inputs that need to be adopted during the innovation process that may have been overlooked or popped up. Innovation that takes too long to develop causes knowledge that initially considered new to no longer relevant because of new developments within or outside the control of the organization.

The knowledge that becomes the focal point of innovation in DOI's theory is new knowledge. Most literature suggests the types and forms of knowledge delivered at the very beginning stage of the DOI theory is explicit, practical, technical and specific about products, processes, strategies or actions (Stewart, 1998), rather than knowledge about skills enhancement, value or other types of tacit knowledge. This means, the delivered knowledge is a knowledge that has been completed and can be communicated at any time to adopters or users.

In the above case, the confusion that may arise in the DOI theory is that, there are scholars who advocate the knowledge conveyed in the innovation process are new knowledge and ideas, while other scholars uphold the knowledge to be delivered is the knowledge that has been completed and can be executed at any point of time through the specific guidances or manuals that have been drafted. Though the former and the latter utterly two different aspects all together, it has left the significant gap that need to be dealt with to avoid further confusions.

New ideas and knowledge are dynamic, while the knowledge that has been structured and codified is quite static for a certain period of time. Due to these differences, there are several literatures suggest that attention should be given to the know-how knowledge that has been codified systematically and easy to communicate, more than tacit knowledge which is difficult to convey, although both are very significantly important. However, many studies indicate it is the tacit knowledge that contributes
greatly to the growth of innovation activities within the organization that have left the gap even more puzzling.

**Knowledge capitalization**

To compete in the economic market, organization needs to take advantage of new and existing knowledge. According to Drucker (1993), knowledge is an invaluable competitive advantage beyond the competitiveness factor in the organization. But problems arise when the organization does not have the ability to classify and identify important knowledge for the organizational sustainability. Competitive advantage starts from the development of knowledge before the knowledge can be realized and commercialized. However, to develop knowledge, it requires latest and precise knowledge which involves high cost of investment from one part and cost cutting on the other part including some modifications to the current organizational structure. To avoid high cost of investment in creating new knowledge, many organizations have to struggle with the challenges for preserving, storing, and controlling existing knowledge from unprofitable outflow and optimizing existing knowledge to produce valuable output to the organization within a limited time frame and resources. The organization performance will likely be in the stagnancy if the organization only optimizes existing knowledge to innovate, and it will cause staff not being productive and creative due to the saturation of knowledge development in the organization and at one stage the organization will be left behind from the competitive aspects due to lack of sensitivity to the development of knowledge that happened outside the organization. Unavoidably, organization need to invest on the creation of new knowledge although having to risk the budget cuts in other activities that are also possibly crucial to the organizational sustainability.

**CONCLUSION**

Knowledge in the DOI theory is the main stake in driving innovation activities. Every individual who comes into the organization for work has varying tacit and explicit skills and knowledge. The diversity in the context of tacit-explicit dichotomy is in fact an advantage to the organizational growth and sustainability if the management of this tacit-explicit knowledge is made in an effective and systematic manner and it is able to create a unique and sustainable competitive advantage. Conflict in managing knowledge is inevitable. In view of the fact that there is not much research on this tacit-explicit knowledge management, continuous study needs to be undertaken as to how tacit-explicit knowledge management needs to be effectively managed from time to time so that the organization can benefit from the results of the study.

**REFERENCES**


