The Effect of Socio-Technical Enablers on Knowledge Sharing in Institutions of Higher Learning: A Proposed Model

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ABSTRACT
In this rapidly changing world towards a "Knowledge based economy", knowledge is gradually being considered as the most important key driver of this economy. Effective Knowledge management program that include acquire, use, and leverage within the organization will help the success of economies in the future. However, most organizations attempt to focus on systems and tools, rather than on the critical part which is knowledge sharing within the organization. Knowledge sharing is vital in university because the majority of the employees are knowledge workers. This is a conceptual study on the enablers of knowledge sharing based on the soci-technical theory with a view to suggest how the theory can be applied to improve higher education system. The role of knowledge delivery personnel has to be emphasized in addition to technology. Socio-technical approach are studied which recognize interaction between social and technologies. This paper studies to identify the major problems that hinder KS pract.ice focusing on leadership role in higher education to develop collaborative work towards a goal to help overcome problems using technical aspects, involving people and processes.

Keywords: Knowledge Management (KM), knowledge sharing, leadership, academics, knowledge workers, socio-technical system

1. INTRODUCTION
Drucker (1993) asserted that organizations have been interested by the idea of managing their knowledge in order to gain competitive advantage because of knowledge was the only meaningful economic resources. In recent years, this process has supposed growing important by technology has enabled collection and knowledge sharing. In this new economy knowledge is the main driver to be based on how companies or organizations acquire, use and leverage knowledge effectively (Ling, Sandhu & Jain, 2009). Knowledge- based activities include the creation and metrics of knowledge, the storage and distribution of knowledge, and the learning and sharing of knowledge and together, these consist of knowledge management (Shieh-Chieh et.al. 2005). Among these, knowledge sharing is critical part of knowledge management (Szulanski, 1996; Gupta & Govindarajan, 2000). Organization's structure may determine that the KM approach should be adaptable to the organization's processes. With an integrated method of incorporating process, people, and technology, KM may reach its full potential as an organizational advantage (Davenport & Prusak, 1998).Sveiby (1997) argued that the transfer of knowledge should be accomplished through interactivity, rather than by relying on information alone to efficiently transfer knowledge.

There are many benefits from the use of knowledge management in higher education but there are also some problems that occur but the benefits outweigh the negatives. Therefore, all academic institutions have to consider applying KM method on education systems in order to be in agreement with world technologies development (Zhao, Gutl & Chang, 2008). However, in developing countries knowledge sharing in educational institutions plays a key role in knowledge management since an individual's knowledge will not have much impact on the organization unless it is made available to other individuals (Nonaka & Takeuchi, 1995). Individuals have information that currently resides in their mind that challenge is to convert them and make it widely and easily available to any faculty member, staff person, doing this could lead to exponential improvements.

Knowledge sharing involves many factors and research is needed to identify which factors help foster knowledge sharing. There is a lack of research that investigates what barriers to Knowledge Sharing in higher education, and what benefits or outcomes realized by the undertaking institutions. Petrides and Nodine (2003) pointed out that some common barriers to KM in higher education are lack of leadership, lack of technology.

2. INSTITUTIONS OF HIGHER LEARNING
Challenge of competition with other universities and need to increase productivity, quality of education has led administrations to consider various management programs (Reid, 2000; Bates, 2000).Effective Knowledge Management (KM) increase the institutions administrative and scholarly activities and help academia to realize its goals of: preserving resources, understanding the knowledge it possesses, sharing the knowledge among its community. Efficiency may be realized by reduced problem solving time, shortening proposal time, or faster results of obtaining knowledge (Alavi & Leidner, 2001). Few institutions use knowledge management process for taking advantage of knowledge usage in higher education and emphasis on knowledge usage for purely educational purposes is in its infancy. Only 6 % of educational institutions formally plan, document, and implement their programs on an organizational level (Kidwell et al., 2000). Knowledge Management (KM), the process that governs knowledge usage (Bhatt, 2001), should not strike highereducation institutions as a radically new idea, because it is simply a new spin on theirraison d'etre (Kidwell et al.2000).

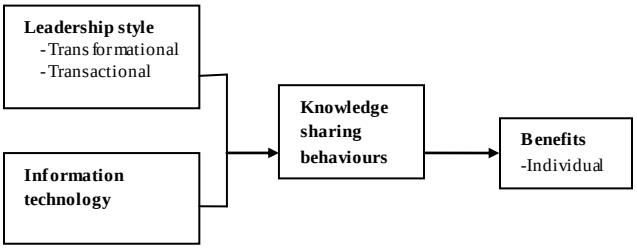
Alavi and Leidner summarized the technology to exchange KM processes: the application of information technologies can create an infrastructure and environment that contribute to organizational knowledge management by actualizing, supporting, augmenting and reinforcing knowledge Processes

at a deep level through enhancing their underlying dynamics, scope, timing and overall synergy (p. 124).

The promise of Knowledge Management (KM), coupled with ever-growing academic and intellectual resources, has led Higher Education Institutions (HEI) to explore strategies aimed at increasing knowledge-based activities with common organizational goals. Colleges and universities are discovering that they need to manage their ever-growing academic and intellectual resources more efficiently, especially those resources that are created electronically and can be easily abandoned or lost (Bernbom, 2001).

3. THE PROPOSED MODEL

Fig. 1 describes the proposed framework for studying the effect of leadership style, information technology on knowledge sharing behaviours with individual and organizational benefits.The framework is conceptualized based on previous work of others (Chen & Barnes, 2001; Yukl, 2006; Torrisi, 1998; Burnbom, 2001; Bock & Kim, 2002).The out comes are individual performance. The enablers are Leadership style and information technology on knowledge sharing behaviours. The dimensions of leadership style are transformational and transactional.



Leadership Style (LS)

In previous research about knowledge sharing, researchers have taken a variety of point of view, considering managerial factors (Lin & Lee, 2004; Srivastava & Bartol, 2006);organizational factors (Cummings, 2004; Kolekofski & Heminger, 2003; Southon, Todd, & Seneque, 2002);cultural factors (Kyriakidou, 2004; Reid, 2003), and so on. Lately, scholars have realized the leadership style is important element in knowledge management (Chen & Barnes, 2006).

Leadership style can be defined as a frequent pattern of behaviors exhibited by a leader .Leaders at all levels should encourage and facilitate the effective dissemination of knowledge in the organization. Attend meeting and encourage subordinates to sharing new idea and their knowledge with other people in the organization who can use to enhance their own performance (Yukl, 2006). Effectively leading organizational knowledge processes is essential to achieving and sustaining a competitive advantage. Leaders for Managing knowledge require a conscious effort at all levels of the organization to manage three key knowledge processes: creating, sharing and exploiting knowledge (Conger & Kanungo, 1998). Norris, Mason, Robson, Lefrere, and Collier (2003) stated that leaders of institutions are encouraged to make sure that faculty reflects on how knowledge can be understood and shared to the institution's advantage. Bernbom (2001) indicated that the return on a KM investment can be achieved through enhanced innovation, integrated work and consistent decision making, but only when the KM program is fully supportive by leadership.

The basic fundamental concept of leadership is found in the relationships: between leaders, followers, and others involved in the leader-follower process. Furthermore, Buren note the most powerful influences consist of deeply human relationships in which two or more persons engage with one another (Burns, 1978, p. 11). Two important authorities on leadership are Bass (1985) and Burns (1978). Burns (1978) distinguishes between transactional and transformational leadership. Transactional leaders motivate followers through exchange or a transaction where pay, status or other rewards are exchanged for work effort. The transformational leader typically inspires the followers to do more than originally expected (Den Hartog et al., 1997). Transformational leadership requires followers to engage in necessary actions and change with a closer relationship between him/her and followers based more on trust and commitment than contractual agreements. (Kakabadse & Kakabadse, 1999) Transformational leadership motivates followers by appealing to higher ideals and moral values. Transformational leaders motivate their followers to perform beyond expectations by activating followers' higher order needs, fostering a climate of trust, and inducing followers to transcend self-interest for the sake of the organization (Bass & Avolio, 1993). They attempt to understand followers' needs and stimulate followers to achieve goals. Such leaders are rather flexible in working towards the desired outcomes; change will take place when it is needed. Bass (1985) focuses on satisfaction of employees' needs and wants by transactional leaders involves existing rewards, while transformational leaders adapt or create new stimuli to satisfy staff needs. Transactional leaders adapt to existing organizational culture while transformational leaders adapt the culture to the external environment. Exploring the role of leadership styles in converting knowledge into competitive advantages is important to our understanding of leaders and organizations. Creating results in today's ever changing and increasingly competitive world requires a very different kind of leadership from what was studied in the past. In today's globalized world, with organizations coping with rapidly changing environments, leaders face a new reality. Working in flexible contexts and connected by real-time electronic communication, increasingly mobile employees have themselves become the critical resource of their organizations (Graetz, 2000).

They represent a combination of leaders' characteristics and behaviors. The most important for leaders is to recognize that different individuals are motivated by different things, and that they should use different approaches like pay, bonuses, raises, rewards, recognition awards as well as job redesign, empowering employees, positive support, etc., offering each individual what he/she desires. Leaders should start by employing the right people, and must stimulate them to achieve their job and to continually learn If leaders want people to accomplish a task, they clearly have to tell them what their job consists of and what is expected of them (Ribiere, Sitar, 2003). They must be open, and must communicate freely and share their knowledge with their employees. Finally, leaders should build their authority on professional knowledge and personal charisma. Only then will the relationships among leaders and knowledge workers bring knowledge and learning forward, transforming them into crucial activities of the knowledge organization, which will be built on mutually shared values and culture (Hall, 2001). Behavior of leaders can be the desired role model (Pan & Scarbrough, 1998).

In the historical development of leadership, leadership traits, behavior, power and influence, and situational approaches are covered (Yukl, 1989). Recently, many studies are focusing on identifying the characteristics and value of transformational and transactional leadership behavior (Bass & Avolio, 1994). Leaders help to overcome structural barriers, empowering key people, bringing the community together, dedicating

resources, and encourage collaboration and sharing. For the purposes of this study, leadership is defined as a process of influencing others to understand why and how certain activities and goals need to be accomplished. Such leadership manages knowledge, and accomplishes shared goals in organizations (Berson et al., 2006).

After deliberating the above constructs, this study purpose that:

Proposition 1: Leadership style (transformational and transactional) will be postively related with knowledge sharing behaviour.

4. KNOWLEDGE SHARING (KS) AND INFORMATION TECHNOLOGY (IT)

Knowledge is primarily a function and consequence of the meeting an interaction of minds" (Fahey & Prusak, 1998, P.273). For many years transmitting knowledge in organization have served and it is not new: training and employee development programs, organizational policies, routines, procedures, reports and manual but the potential of using modern information technologies (e.g. the internet, intranets, data warehouses, data filters and software agents) is new to systematize, facilitate, and expedite firm-wide KM (Alavi,Leidner, 1999). The critical role for IT lies in its ability to enable collaborative learning.IT professionals standardize, store and distribute knowledge. Knowledge is acquiesced and tagged using special software. Many organizations are attempting to increase knowledge sharing through creating or acquiring a database where employees contribute their expertise electronically to the organization in a way that can be accessed by other employees (Ruggles, 1998). These knowledge sharing technologies have advantages. Fahey and Prusak (1998) note, "IT is a wonderful facilitator of data and information transmission and distribution it can never substitute for the rich interactivity, communication, and learning that is inherent in dialogue. Alavi and Leidner (2001) note that formal lines of communication (e.g, computer networks, electronic bulletin boards, and discussion groups facilitate contact between those seeking knowledge and those who control access to knowledge) increase knowledge sharing by extending an individual's reach.

Karlsen and Gottschalk (2004) argue knowledge sharing has variety of aspects that it is difficult to distinguish if successful knowledge sharing depends on social and cultural aspects or technological and procedural mechanisms whereas, knowledge sharing is defined by Karlsen and Gottschalk (2004, p.4) as "how knowledge acquired in one situation applies to another". Knowledge sharing can occur at various levels in an organization, It can occur: between individuals, from individuals to explicit sources, from individuals to groups, between groups and more. KS channels can be informal or formal, personal or impersonal.

Moreover, Karlsen and Gottschalk (2004) stress that IT can support all forms of knowledge transfer, but they argue that it mostly has been applied to informal, impersonal means (e.g. discussion databases) and formal, impersonal means (e.g. corporate directories). They tension further that IT can increase knowledge transfer by extending the individual's reach beyond formal communication lines. Karlsen and Gottschalk (2004) argue that computer networks and discussion groups create a forum that facilitates contact between the person seeking knowledge and those who may have access to the knowledge. They argue that knowledge only is valuable if it is appropriate, perfect and available. Successful knowledge management and transfer require systems, methods and procedures.

These systems and procedures make up a framework for KS i.e. identifying what a user wants or needs to know, how knowledge should be created, collected, stored etc. This framework should also include a clear organizational plan on KS. Hoefling (2001) lists three major activities: first knowledge generation; second knowledge codification or capturing knowledge; and third knowledge transfer (search and retrieval).However, Allee (2000) cautions an emphasis on technology, especially complex systems without first considering people in organization can use it properly and it is useful.

Davenport (1994) note management introduces some new technology to foster knowledge sharing among employees. Unfortunately, employees have no motivation to use or they were afraid of losing their experts knowledge to colleagues who would use it to get promoted instead of them. Therefore, in this case, the technology not uses properly to foster knowledge sharing in organizations.

Proposition2: The information technology is significantly related to knowledge sharing behaviours.

5. KNOWLEDGE SHARING (KS)

As Inkpen (2000) puts it"unless individual knowledge is shared throughout an organization, the knowledge will have a limited impact on organizational effect". There are much evidence that knowledge sharing is critical to knowledge creation, organizational learning, and performance achievement (Bartol & Srivastava, 2002). Bock and Kim (2002) assert that knowledge sharing has been considered the most important part of knowledge management. Knowledge sharing is of vital importance to organizations; sustain their competitive advantage to develop skills and competences (Matzler, Rier, Hinterhuber & Stadler, 2005). Knowledge sharing should be considered for achieving effectiveness in knowledge management. Many organizations already achieve significant benefits through knowledge sharing activities, e.g.Toyota (Dyer & Nobeoka, 2000), Dow Chemical (O'Dell, Wiig & Odem 1999), and Ford (McDermott & O'Dell, 2001). Wah (2000), claims that hoarding knowledge is a major obstacle to KS that it seems to be natural, particularly under conditions of economic competition where "knowledge is power". Hoarding knowledge unintentional or deliberate can affect organizational performance. It is difficult to remove hoarding behavior and create a collaborative climate in organizations.

5.1 Types of Knowledge

According to the literature on the studies of knowledge, knowledge can be classified as explicit or tacit. Explicit knowledge is formal, systematic, and can be codified into records such as databases and libraries (cited in Nonaka, 1994). Knowledge that can be documented, created, written down, transferred orally or through some medium of communication such as emails, telephone or information systems is explicit knowledge (Choi & Lee, 2003). Another definition by Barth (2002) explicit knowledge can be processed by information systems, codified or recorded, archived and protected by organizations. Tacit knowledge that is embedded in mental processes, is obtained through experience and work practices, and can be transferred by observing and applying it (Choi & Lee, 2003). Barth (2002) defines tacit knowledge that exists in people's mind and is

difficult to transfer. Polanyi (1997) defines tacit knowledge that is highly personal and is embedded in a person's daily work practice (cited in Nonaka, 1994).

6. KNOWLEDGE SHARING AND INDIVIDUAL BENEFITS

Knowledge sharing is the voluntary sharing of acquired skills and experience to the rest of the organization (Davenport, 1998; Ipe, 2003). Beliefs or routines and experience are internal knowledge sharing across the units of an organization. Sharing of this knowledge at the individual level is critical to an organization to make available to other individuals (Nonaka & Takeuchi, 1995). Simply put, a lack of knowledge sharing may inhibit or hinder knowledge management (Ipe, 2003). Davenport and Prusak (2000) asserted that individuals are likely to hoard knowledge rather than share it if no benefit can be obtained through the sharing behavior. Gray (2001) also indicated that once individuals share knowledge, they may lose the benefit based on it.Riege (2005) noted that social networks and lack of communication skills are barriers to KS. At the firm level, Reige (2005) identifies existing IT systems are not good enough and sometimes there is not balance between organizational needs and what is provided. Sharing knowledge in higher education relates to the technological capability of the organization is important as it allows an organization to coordinate different skills and technologies critical for its growth because the development of complex products requires the integration of different knowledge sources (Torrisi, 1998).

From a socio-technical perspective, we anticipated both social and technological aspects to be brought up by our participants as barriers and facilitators of knowledge sharing. This study emphasis on leadership and Technological factors were mentioned and classified under organizational infrastructure, and databases. These cannot be overlooked in terms of their impact on knowledge sharing, yet we emphases that they must be used appropriately and in a balanced approach with the social factors. The speed of transfer is often Knowledge sharing, leadership, IT. Knowledge sharing and the different involvement of leadership, IT and management are seen to play an important role in todays institutional. KS cannot function successfully without help from good leadership, which benefits the knowledge transfer process. Scott (2003) discusses different issues, which indicate that through good leadership, successful KS can occur in one way or another. Karlsen and Gottschalk (2004) discuss further the increased involvement of IT and IT tools within the area of KS. They argue that in today's society, knowledge can be transferred through different solutions such as E-mail, Internet and more. Moreover, Karlsen and Gottschalk (2004) argue also that is it hard to distinguish if successful KS depends on social and cultural aspects or technological and procedural mechanisms. Several authors stress that it sometimes is a mixture of these things that contributes to a successful KS. In today's society more and more focus will be given to both IT and social.

Proposition3: The knowledge sharing behaviours are significantly related to individual performance.

7. CONCLUSION

The concept of knowledge management suggests the most advanced elements of information technology and the society should be combined. The mix is a challenge of managing practical with human growth perspective. The primary objective of this paper is to show the knowledge sharing practice from the socio-technical perspective. If higher education wants to succeed in carrying out knowledge management practices, they should consider both social and technical enablers. This study proposes that the balanced combination of the two approaches leads to better KS. In order to transform knowledge assets into institutions, leaders of higher education need to exploit knowledge worker by strong collaboration with information technology.

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