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Examining the Impact of KM Enablers on Knowledge Management Processes

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Abstract

The main purpose of this research is to study the relationship between enablers as independent variable and knowledge management as dependent variable. The main hypothesis in this study is that the enablers are significantly related to knowledge management processes and improving the condition of enablers in organization leads to efficiency of knowledge management processes. In this research, Lawson's model for measuring knowledge management processes, and Lee and Choi's model for measuring the enablers are used. The findings of this study in employee's population accept the main and secondary hypotheses and show that enablers were significantly related to knowledge management processes. Technology and culture variables significantly were related to knowledge management processes and structure variable was not significantly related to knowledge management processes. Among the three enablers, technology and culture have the most effect on the knowledge management processes respectively.

Keywords: *Knowledge management, Knowledge management processes, KM enablers,*

1. Introduction

The increasing growth and prosperity of the companies which is achieved through utilizing information technology, has made the organizations change their present economical approaches from the one which is based on sources such as lands, machines, factories, raw material and work force to a new one based on knowledge and economical value creation through knowledge utilization. Today, knowledge is known as a key property and a valuable asset that is the base of constant development and the key of permanent competitive advantage of an organization. In the current climate of increasing global competition, there is no doubt about the value of knowledge and learning in improving organization competence (Preto and Revilla, 2004). Organizations need to consider adaptive and intelligent strategies of knowledge management processes to succeed in today's competitive environments. (Kangas, 2005).

Knowledge is a difficult concept to define. Organization scholars still argue that knowledge is a multifaceted concept with multi-layers meaning for different circumstances and for different people. Nonaka and Takeushi (1995) define knowledge as the justified true beliefs. Al-hawari (2004) providing the following description:

organization knowledge, as an object, should be codified, distributed, understood and applied to achieve a set of goals. Davenport and Prusak (1998) define knowledge as a specific and rule-governed organizational process for capturing, organizing, retaining, applying and knowledge sharing which renews the individuals' background knowledge to improve the organizational performance. Knowledge management approaches means that companies and organizations are creating competitive advantages through continuous learning and formulation of different types of knowledge (Ignacio et al, 2008). There are no agreements over knowledge management processes. Due to different scholars points of views, there are 3 to 8 successive levels for knowledge management cycle which also overlap each other. Lawson (2003) combined 3 different models' processes and presented a new model. In this research, the Lawson model is used to measure the knowledge management processes in the organization.

 Knowledge management enabler's factors are essential infrastructure for increasing the efficiency of knowledge management activities. The most important knowledge management enabling factors are technology, structure and organizational culture (Gold et al, 2001). In this study, the Lee and Choi (2003) scale is used to measure the knowledge management enabling factors. In this scale, the enabling factors are technology, structure and culture. In this article, at first knowledge management and its six level processes based on Lawson model explaining, then knowledge management enabling factors will describe and finally their relations between them are analyzed.

Knowledge management

   Knowledge management is a new and controversial term and has many different definitions. The term knowledge management was first introduced in Europe Management Conference in 1986. Alternative definitions have been proposed since that attempt to capture the complexities of knowledge management. The American Productivity and Quality Center defines knowledge management as "the strategies and processes of identifying, capturing and leveraging knowledge"(Atefeh et al 1999, p. 172). Knapp (1998) defined it as the art of transforming information and intellectual assets into enduring value for an organizations clients and its people. Daruch (2003) defines it as the process that creates, share, distribute and use the knowledge in the organization. Different scholars have identified different processes for knowledge management such as:

1. Creation, transfer and application (Spender, 1996)
2. Capture, transfer and application (Delung, 1997)
3. Identification, capture, development, sharing, dissemination, application and storage (Probest et al, 2000)

Alavi and Lidner examined different characteristics of these models and introduced four processes of creation, storage/retrieval, transfer and application. Shin, Holden and Schmidt (2001) have also combined different authors' terminologies in knowledge management processes description and classified them as creation, storage, distribution and application. In recent years, some authors concluded that four dimensions of knowledge management processes are knowledge acquisition, knowledge protection, knowledge conversation and knowledge application (Gold et al, 2001; Park, 2006). Lawson (2003) combined three different models' processes and presented a new model. Based on this model Knowledge management cycle is divided into 6 different processes:
1. Knowledge creation
2. Knowledge capture
3. Knowledge organization
4. Knowledge storage
5. Knowledge dissemination
6. Knowledge application

Knowledge creation process

   Knowledge creation process is complex, multidimensional and dynamic. Organizational knowledge creation is the ability of an institute to create knowledge, circulate it in the organization, products, services and systems (Nonaka and Takeushi, 1995). Nonaka (1995), the Hitotsubashi university professor of management in Tokyo,

believes that successful companies are organizations that are consistently creating and circulating new knowledge in the organization and applying it to new products technology. In fact, he wants to say that knowledge creation must be the centerpiece of the companies' organizational strategies. The knowledge management literature distinguishes between individual and organizational knowledge creation. These differences are important since the knowledge creation process features are different depending on whether the knowledge is individual or organizational. It can be said that social knowledge is the total amount of things people know (Goucher, 2007). Ang and Massingham (2007) presented a list of factors that affect knowledge creation. They classified these elements into four groups of cultural, organizational, knowledge sources and knowledge processes. Knowledge is created in the spiral that goes through pairs of seemingly antithetical concepts such as order and chaos, micro and macro, part and whole, mind and body, tacit and explicit, self and other, deduction and induction, and creativity and control (Nonaka et al, 2001). In order to understand how organizations create knowledge dynamically, Nonaka and others (2001) have presented a model of knowledge creation consisting of there elements. These three elements have to interact with each other to form the knowledge spiral that creates knowledge.

1. The SECI process the process of knowledge creation via conversion from tacit to explicit knowledge;
2. "Ba" the shared context for knowledge creation;
3. Knowledge assets the inputs, outputs and moderators of the knowledge- creating process.

Knowledge capture process

Organizational knowledge capture is the process of developing new content and replacing exiting content within the organizations tacit and explicit knowledge base (Pentland, 1995). According to Park (2006), organizations must capture knowledge from both inside and outside of the organization. They even have to exchange their knowledge with their partners so that their knowledge upgrade can happen constantly through benchmarking and feedback of projects experience to improve subsequent projects. Once these practice and variances have been identified, the organization can then capture the knowledge for use internally (Gold et al, 2001). Organizations make their knowledge foundations collecting information from various internal and external sources. Organizations might use a passive or active style for their intra organization exploration. Organizations may use their knowledge benefiting from their personnel knowledge, mutual experiences and setting of continuous change processes. They can capture external knowledge using other organizations' leveling methods, attending conferences, reading newspapers and magazines, watching news programs, getting electronic information, watching television, pursuing economic, social and technical procedures, collecting manufacturers and customers' information, employing new staff, cooperating with other organizations and making mutual investments (Markwart, 2002).

A production oriented approach centers on knowledge capture as the main two-dimensional goal of knowledge management. The recognition dimension which considers knowledge as something that can be encoded, organized, stored and retrieved whenever necessary and technical-professional dimension which emphasizes the role of new information and communicative technology in knowledge capture processes (Ekbia and Hara, 2008). Numerous tools are necessary for knowledge capture. Traditional tools are word processors, emails and demonstrative software. New technologies are also used such as voice recognition tools, common work environments and video conferences (Sharma et al, 2008).

Knowledge organization process

Knowledge organization process points to knowledge structure, knowledge listing and modeling and is related to knowledge sharing process. Knowledge organization process involves three stages: selection and evaluation, organization, and re-selection or ``weeding''. User communities appreciate assistance with selection and evaluation. Further, selection and evaluation are a continuing process; information is not included in an archive or collection for all time, but must be re-evaluated to assess whether it has been superseded, or ceased to be of interest to the community. Their data collection and documentations make information and data public knowledge. As for the knowledge organization processes, the following triple principles should be taken into consideration:

(1) Knowledge needs to be organized for communities.
(2) In designing tools to support the organization of knowledge, the Guiding principle must be that of user orientation and predominant usage.
(3) Standardization and networking provide infrastructure, which facilitate effective and efficient access to information and documents (Rowley, 2000).

Knowledge organization strategies should be defined according to the different stages of knowledge development phases (knowledge creation, knowledge adoption, knowledge dissemination, knowledge revision). Each phase, I the knowledge development cycle need to be evaluated in context of its characteristic on repetition, standardization, reliability, and specifications. In the knowledge creation stage, organizations must provide several opportunities in order to guide the planned and unplanned experiences to learn from uncertainty, instability, randomness, and chaos. In the adoption stage, an organization must acquire and standardize specific knowledge objects, modules, practices and processes. In the dissemination stage, it must ensure that all the organization personnel have equal opportunities of accessing the information and sharing their knowledge. In the revision stage, a firm should promote various and diverse views to offer sufficient avenues for learning (Bahtt, 2000).

Knowledge storage process

Alavi (2000) claimed that knowledge creating new knowledge is not enough and mechanisms are needed to store acquired knowledge and to retrieve it when needed. The concept of organizational memory is a great solution in this regard. Organizational memory includes knowledge residing in various component forms that may include written documentation, structured information stored in electronic databases, codified human knowledge stored in expert systems, documented organization procedures and processes, and tacit knowledge acquired by individuals and networks of individuals (Tan et al, 1998). Organizational memory includes individual memory (a person's observation, experiences and actions) as well as shared knowledge and interactions, organizational culture, transformations, structure (formal organizational roles), ecology (physical work setting) and information archives (inside and outside of the organization) (Walsh and Ungson, 1991). Organizations which like their knowledge to be accessible in the future must at least have a great command of three basic knowledge management processes. On the one hand, they have to choose events, people and processes which are worthy of storing. On the other hand, they must be able to store their experience in an appropriate form. Finally, they have to guarantee their up-to-date organizational memory. Furthermore, they should develop security technologies to limit the accessibility of their knowledge. The following activities are necessary for protecting knowledge: knowledge protection against inappropriate use or being leaked in inside or outside of the organization, limited accessibility to some of the knowledge sources of knowledge by password technology, identifying restricted knowledge easily, tacit knowledge protection and most importantly, communicating the importance of knowledge protection on a corporate level (Probast et al, 2000).

Markwart (2002) believes that a knowledge storage system must have the following factors:
1. A structure which allows the system to present the information quickly and correctly.
2. Classification of (information) events, policies or procedures based on learning needs.
3. the ability to present information precisely and clearly
4. an on time, precise and available content

Knowledge dissemination process

Alavi and Leadner (2001) define knowledge dissemination as the process of transfer knowledge through out the organization. Knowledge dissemination process can happen between individuals, groups or organizations using any type or number of communication channels. Similarly, Gupta and Govindarjan (2000) equating knowledge sharing to knowledge flows theorize that knowledge flows comprise of five elements: value of the source knowledge, willingness of the source to share knowledge, media richness of the communication channel, willingness of the

recipient to acquire knowledge and the absorptive capacity of the recipient. Davenport and Prusak (1998) define knowledge sharing as a process of knowledge exchange between individuals and groups.
 Connelly and Kelloway (2003) define knowledge sharing as a set of behaviors that involve the exchange of information or assistance to other.

They are number of factors that influence knowledge sharing behaviors of individuals. They range from hard issues such as tools and technologies to soft issues such as motivations and provision of incentives to encourage knowledge sharing, organizational culture, personal values and self-identities, national culture, trust, care organizational resources like time and space and access to knowledgeable people in the organization (Chennamaneni, 2006). Another group of researchers believes that the most important elements that affect knowledge sharing are organizational infrastructure and human resources management. Organizational infrastructures include organizational culture, organizational structure, rules and information technology (Yi, 2005).
 Knowledge dissemination is defined as knowledge exchange management in the organization for encouraging innovation; increasing the awareness of great past procedures and making users adopt better procedures for their future decision-making. The personnel degree of participation in knowledge dissemination affects new products quality (Yang, 2008). Markwart (2002) points to two voluntary and involuntary approaches with regards to knowledge exchange. The voluntary methods may be done in different ways. The written method includes individual communications such as notes, reports, bulletins and also publications. National conferences, article abstracts, teacher-student training, foreign consultants or official courses participation provide more opportunities for exchanging knowledge. Changing personnel's position and posts can be planned for knowledge dissemination in the organization. Knowledge can also be involuntarily exchanged through stories and myth, permanent work force and unofficial networks. The less the voluntary or planned knowledge exchange is, the more loss in the potential knowledge would be.

Knowledge application process

The key point in knowledge management is to make sure that the presented knowledge present in an organization is applied productively to benefit the organization (Probst, Rub and Rumhardt, 2000). The effective application of knowledge helps companies increase their efficiency and reduce costs (Davenport and Klahr, 1998). Knowledge application includes application for decision-making protection, action and problem solving which can finally lead to knowledge creation. The created knowledge needs to be captured, shared and applied and therefore the cycle continues. Knowledge management systems support processes by which individuals make use of others knowledge (Sabherwal and Fernandez, 2006). Information technology supports knowledge application in the organization by using an organizational procedure (Gottschalk, 2008). As there were problems in the way of knowledge sharing, there are obstacles in the way of knowledge application. These problems might appear as a result of: organization blindness, fear of showing sore points or distrust towards foreign knowledge. The routine and dull flow of affairs and works makes it more difficult for us to recognize the importance of new knowledge or idea exchange with our colleagues about the new work methods. Consequently, we will not anymore believe that new procedures can improve our performance and efficiency. Therefore, individuals' knowledge does not change and this is called organization blindness that can hinder knowledge application (Probst et al, 2000).

Knowledge management enabling factors

Knowledge enablers, also characterized as influencing factors, can facilitate such knowledge management activities as codifying and sharing knowledge assets among individuals (Chan and Chau, 2005). Based on different studies, 3 key knowledge management and organizational efficiency enabling factors are identified. They are technology, structure and culture. These studies present strong evidence regarding the impact of Knowledge management enablers and processes on knowledge effectiveness (Gold et al, 2001).

An organization that is willing to set up knowledge management must identify these elements and therefore provide the necessary infrastructure. Enabling factors have the power to guide knowledge management in the organization.

They also encourage the personnel to share their knowledge and experience with others and let organizational knowledge grow concurrently and systematically. Knowledge management enablers are the mechanisms for organizations to develop its knowledge and stimulate the creation of knowledge within the organization as well as the sharing and protection of it (Yeh et al, 2006).

Laupase (2003) specified 3 factors of organizational structure, culture and information technology as supporting variables of conversion in his studies about implicit explicit conversion process. In another study the relation between organizational elements and knowledge exchange process in private institutes was analyzed. In this research, five important enabling factors are identified: organizational culture, organizational structure, technology, human sources and political factors. The results show that enabling factors can affect knowledge management in the organization (Syed-lkhsan and Rowland, 2004).

Ngok (2005) considered organizational communication system, communal culture, transformational leadership and information technology as the essential knowledge management enablers. The results of these studies revealed a positive relation between organizational communication system, communal culture, transformational leadership, information technology and knowledge transfer. However, communal culture and transformational leadership were the two strongest predictors of knowledge transfer. The application of Information technology had the lowest influence on knowledge transfer.

Technology

Information technology plays a crucial role in removing the boundaries to communication that often inhibit the interaction between different parts of the organization. The important role of information technology is its ability to support communication, collaboration, knowledge seeking and enable collaborative learning (Ngok, 2005). Information technology has an active role and is a key enabling factor in knowledge management major (Davenport and Prusak, 1998). Information technology that is a part of effective knowledge management can be classified into two types: communication technologies (emails, video conferencing, electronic bulletin boards and computer conferencing) and decision making technology (decision support systems, expert systems and executive information systems) (Song et al, 2001).

Technology refers to the information technology infrastructure and its capabilities supporting the knowledge management architecture. There is an ongoing debate on the role that information technology can play in knowledge management. On the one hand, information technology is pervasively used in the organization, and thus qualifies as a natural medium for the flow of knowledge in the organization. Knowledge projects are more likely to succeed when broader technology infrastructure is adopted. At the other end of spectrum, many theorists leading knowledge management have warned about the attitude towards strong investments in information technology, possibly at the expense of investments in human capital. However, investments in information technology seem to be unavoidable in order to scale up knowledge management projects (Lee and Choi, 2003). It is information technology which determines the knowledge accessibility in the organization. Therefore, technology support is necessary for knowledge management performance in the organization. An organization must invest in comprehensive technological infrastructure that supports different scientific activities in the organization (Gold et al, 2001).

Structure

Organizational structure that promotes individualistic behaviors where locations, divisions and functions are rewarded for hording information inhabits effective knowledge management within the organization (O'Dell & Grayson, 1998). The structure of an organization can be defined as the formal relationships and allocation of activities and resource among people. Many studies have examines two major structure dimensions of centralization and formalization from a traditional point of view (Tata and Prasad, 2004). Centralization refers to the hierarchical level that has the authority to make a decision within an organization. Formalization refers to written documentation, rules and procedures in the organization that affect the communication of knowledge (Schminke et al, 2000). It also refers to the degree to which formal rules, standard polices and office procedures are controlled (Lee and Choi, 2003). Centralization usually prevents section interactions, knowledge sharing and knowledge application. It refers

to the focus of decision making authority and control in the organization. Decentralization on the other hand, is a structural factor that improves knowledge sharing by giving personnel the necessary authorization (Hurley and Green, 2005). However, decentralization may lead to disorderliness and redoubled work. The knowledge domain and distribution must be in line with organization structure and personnel policies. The more flexible the organization structure is, the more important the distribution and the more limited their thinking will be. Organizational structures are not usually made to be responsive to knowledge management needs. Geographical or functional obstacles may make knowledge distribution difficult or even impossible. Companies need structures based on specific subjects or interests such as capability centers or learning scenes in addition to geographical or functional structures (Probast et al, 2000).

Organizational culture

Organizational culture is a set of values, beliefs, norms, meanings and procedures shared by organization members (Roobin, 2004). Organizational culture shaped by the means of organization members, organization moral standards, by the employment rights given to employees, and by the type of structure used by the organization to run the organization. Like organization structure, organizational culture shapes and controls the behaviors in the organization. Organizational culture affects individuals' respond to different situations and their interpretation of organization surrounding environment (Mavondo and Farell, 2004).

Organizational culture is a very important factor in effective knowledge management. An effective organizational culture can have a stimulating role by providing a suitable environment for knowledge exchange and supporting the knowledge activities (Janz and Prasamphanich, 2003). An organization must have a powerful culture in which values, trust, openness and sociability to stimulate people's interaction and knowledge sharing (Ngok, 2005). According to researchers findings, collaboration, trust and incentives are three major dimensions of organizational culture (DeTienne, 2004). Slater (2004) believes that collaboration has the following dimensions: a) common goals, joint work and interdependence; b) parity or equality in relationships; and c) voluntary collaboration. A collaboration environment provides opportunities for knowledgeable people to share knowledge openly and have successful knowledge management programs. Lee and Choi (2003) define collaboration as the degree to which individuals support and help each other in-group works. Collaboration decreases fear, increases freedom, encourages novel ideas and consequently increases risk taking. Collaboration is a basic issue in knowledge sharing and truly creates and transfers knowledge. Furthermore, reward systems can create channels through which knowledge can flow and be accessible. Organizations reward systems as structural potentials, can support knowledge management activities. Tangible and intangible rewards are all integral parts of knowledge management process and can be used to stimulate and motivate the personnel to share knowledge. Organizational reward system is an important structural factor that is used to affect individuals' behavior and affects personnel decisions about knowledge creation and transfer (Hurley and Green, 2005).

The theoretical framework of the research

Due to the great number of researches, different models are presented in knowledge management literature. By the same token, there is no agreement upon knowledge management procedures. Based on different viewpoints, Knowledge management cycle has 3 to 8 successive stages that overlap each other. The major framework of this research of course, has two major dimensions: knowledge management and enabling factors. To measure the knowledge management processes in this research, the Lawson model is used. In 2003, Lawson presented a model that was a combination of three groups of researchers' knowledge management procedures, Wig (1997), Parikh (2001), Hurwich and Armacast (2002). According to this model, knowledge management cycle is divided into 6 different processes: a) knowledge creation; b) knowledge capture; c) knowledge organization; d) knowledge storage; e) knowledge dissemination; f) knowledge application.

Different classifications are also presented for knowledge management enabling factors, which have common areas. In this research, enabling factors are analyzed based on Lee and Choi (2003) and Park (2006). They are technology, structure and organizational culture.
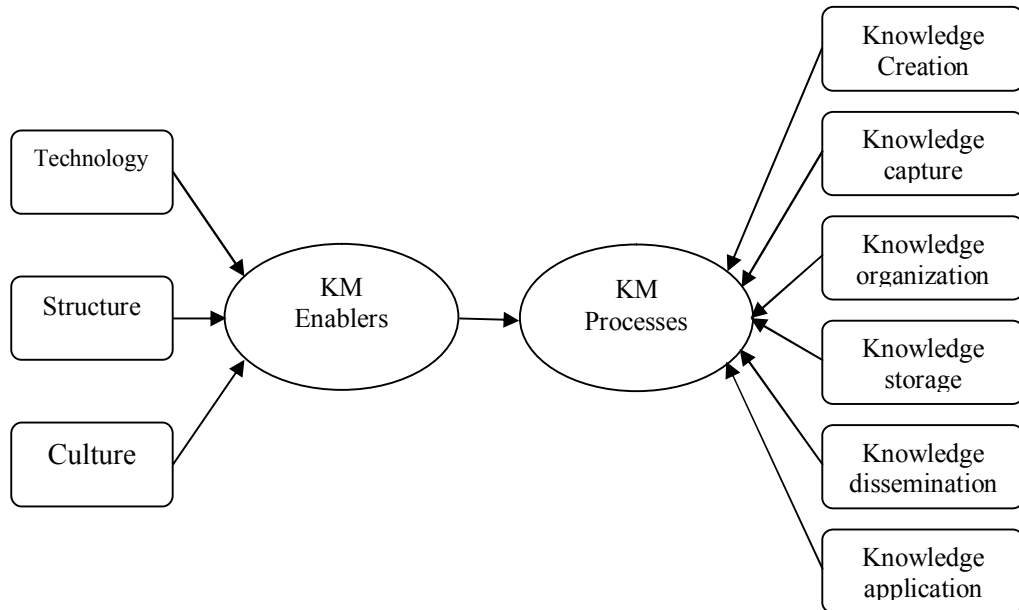
Figure 1. Theoretical framework

Research methodology

Since the present study is after finding the existence of relations between enablers and processes, it is of correlative type. The research is of field type from statistical point of view, since the sample is used to generalize the society. The knowledge management enablers are considered as independent variables. Enablers are technology, structure and organizational culture. Knowledge management processes are dependent variables and enabling factors' effect is analyzed. Knowledge management processes are creation, capture, organization, storage, dissemination and application. In order to quantitatively analyze the information and get to know the Isfahan Refinery Company personnel and managers points of view about enablers and knowledge management processes, questionnaires are used. The questionnaire of this research has 3 parts. Statistical variables are in the first part. The second part deals with questions about knowledge management processes' evaluation. The third part includes questions about enabling factors measurement. Lawson questionnaire (2003) is used knowledge management processes' evaluation. Enabling factors are measured in the third part through Lee and Choi scale (2003). This scale is comprised of technology, structure and organizational culture dimensions. The questionnaire validity, its content validity, was approved by experts and critics. The Cronbach alpha method that is one of the most important and most common methods was used to measure the reliability of the test. Using SPSS software and cronbach alpha method, the reliability of knowledge management processes questionnaire and enabler's questionnaire turned out to be 0/852 and 0/863 respectively. Since it was more than 0/7, the questionnaires were highly reliable. The statistical population of this research was 977 of personnel and 33 managers of Isfahan Refinery Company in Iran. Since the variance was not available, it was calculated according to the primary sample. To do this, the questionnaire was distributed among 30 personnel of the organization. The obtained variance from the primary sample was 0/347 and 0/32 for knowledge management processes questionnaire and enablers questionnaire respectively. According to the above formula and obtained variances, the least sample volume was calculated 156 people for the processes questionnaire and 136 people for enabling factors with the precision of 0/05 and at the safety level of 95 percent. As a result, the bigger sample, 156, was chosen as the sample volume. The multiple regression test was used to predict the effect of independent variable on dependent variable. In this research, three enabling factors of technology, structure and culture are considered as independent and knowledge management processes as dependent variables.

In the following equation, x_1 technology, x_2 structure and x_3 is culture. We determine which independent variable has the greatest effect on dependent variables using standard coefficients.

$$Y = a + b_1 x_1 + b_2 x_2 + b_3 x_3$$

The test significant statistical hypotheses of the regression model are as the following. If the significant is less than 5 percent, the linear relation of the two variables is confirmed.

H_0: There is not a linear relation between enabling factors and knowledge management processes variables.

H_1: There is a linear relation between enabling factors and knowledge management processes variables.

Data analysis

In this section, we want to determine the relations between enabling and knowledge management processes, too. As 0.00=P<0.05 in the knowledge creation process, H_0 is rejected and H_1 accepted and therefore the linear relation of the two variables is confirmed. The knowledge creation process and enabling factors' equation is calculated according to the following formula.

Y=2.401+0.264 x_1 +0.19 x_3

As 0.00=P<0.05 in the knowledge capture process, H_0 is rejected and H_1 accepted and therefore the linear relation of the two variables is confirmed.

Y=2.695-0.36 x_2 +0.396 x_3

As 0.00=P<0.05 in the knowledge organization process, H_0 is rejected and H_1 accepted and therefore the linear relation of the two variables is confirmed.

Y=1.119+0.343 x_1 +0.29 x_3

As 0.00=P<0.05 in the knowledge storage process, H_0 is rejected and H_1 accepted and therefore the linear relation of the two variables is confirmed.

Y=0.594 x_1 +0.282 x_2 +0.25 x_3

As 0.00=P<0.05 in the knowledge dissemination process, H_0 is rejected and H_1 accepted and therefore the linear relation of the two variables is confirmed.

Y=1.557+0.655 x_1

As 0.00=P<0.05 in the knowledge application process, H_0 is rejected and H_1 accepted and therefore the linear relation of the two variables is confirmed.

Y=0.441 x_1 +0354 x_3

Table (1) shows the results of data analysis of the relationship between enabling factors and knowledge management processes variables.

Table (1): Result of analysis

Independent	constant		technology		structure		culture	
Dependent	t	p-value	t	p-value	t	p-value	t	p-value
Knowledge creation	5.524	0.000	3.050	0.003	-1.79	0.075	2.347	0.020
Knowledge capture	5.608	0.000	0.788	0.432	-2.57	0.011	4.437	0.000
Knowledge organization	2.388	0.018	3.946	0.000	-0.81	0.418	3.33	0.001
Knowledge storage	-0.68	0.497	6.963	0.000	2.109	0.037	2.93	0.004
Knowledge dissemination	3.682	0.000	8.344	0.000	-0.26	./792	-0.82	0.41
Knowledge application	1.946	0.053	7.152	0.000	-0.54	0/588	5.544	0.000

The results of the research major hypothesis show that 0.00=P<0.05, H_0 is rejected and H_1 accepted, in other words, the linear relation of the two variables is confirmed. Based on the obtained data from the major hypothesis, the test fixed amount of significant, zero regression coefficient of technology and culture variables that is less than 5 percent, the equality hypothesis of these variables coefficients with zero is rejected. As significant is more than 5 percent for structure variable coefficient, it is not inserted into the equation. The table shows in the standardize coefficient columns (Beta) that among the three variables effects on knowledge management processes dependent variable, technology and culture have the greatest effects respectively. The regression equation is as the following.

$$Y=1.351+0.392 x_1 +0.234 x_3$$

Table (2): Enablers and KM Processes

Dependent	Knowledge management processes							
Independent	Model summary				Coefficients			
	R	R^2	F	Sig	B	Beta	t	Sig
constant	0.649	0.422	37.893	0.000	1.351	---	4.337	0.000
technology					.392	.468	6.775	0.000
technology					-.083	-.057	-.921	.358
technology					.234	.275	4.042	0.000

Conclusion

  The findings of this research revealed a significant relation between enabling factors and knowledge management processes. The correlation coefficient between them was positive and this proves the direct relation between them. The multiple correlation coefficient of 0.649 shows that 42.2 percent of changes in dependent variable has been due to the effect of enabling factors' independent variable. Among technology, structure and culture, technology and culture have significant effects on knowledge management processes. Technology coefficient was 0.392 that shows an effect of 40 percent of this variable on the dependent variable. Culture coefficient was 0.234 that shows an effect of 23 percent of this variable on the dependent variable. The structure coefficient was 0.057, which means it has little or any effect on knowledge management processes. The six minor hypothesis of this research which go about the relation between 6 processes and enabling factors were all approved at the safety level. These relations confirm the effect of enabling factors variable as the independent variable on knowledge management processes variable as the dependent variable and also considers it significant. In fact, improving enabling factors status in the organization can be followed by the knowledge management processes improvement.

References

Alavi, B. (2000). Human resource management information system. **Tadbir Magazine**, (I.M.O), 105.

Alavi, M., & Leidner, D. E. (2001). Knowledge management and knowledge management system: Conceptual foundations and research issues. **MIS Quartely**, 25(1), 107-136.

Al-hawari, M. (2004). K**nowledge management styles and performance: A knowledge space model from both theoretical and empirical perspective**. Doctoral dissertation, University of Wollongong, NSW, Australia.

Ang, Z., & Massingham, P. (2007). National culture and the standardization versus adaptation of knowledge management. **Journal of Knowledge Management**, VOL. 11, NO. 2, pp. 5-21.

Atefeh, S., McCamble, L., Moorchead, C. & Gitters, S. H. (1999). Knowledge management: the new challenge for the 21 century. **Journal of Knowledge Management**, 3(3), 172-179.

Bhatt, G. D. (2000). Organizing Knowledge in the knowledge development cycle. **Journal of Knowledge Management**, Vol.4, Num.1, PP.15-26.

Chan, I., & Chau, P. Y. K. (2005). Getting Knowledge management right: Lessons from failure. **The International Journal Knowledge Management**, 1(3), 40-45.

Chennamaneni, A. (2006). **Determinants of knowledge sharing behaviors: Developing and testing an integrated theoretical model**. Doctoral Dissertation, University of Texas Arlington.

Connelly, C. E., & Kelloway, K. (2003). "Predictors of employees' perceptions of knowledge sharing cultures,". **Leadership & Organizational Development Journal**, 24(5/6), pp. 294-301

Darroch, J. (2003), Developing a measure of knowledge management behaviors and practices. **Journal of knowledge management**, 7(5), 41-54.

Davenport, T., & Klahr, P. (1998). **Managing customer support knowledge**. California

Davenport,T.H.& Prusak, L. (1998). **Working Knowledge: How Organization Manage What They Know**, Boston: Harvard Business School Press

Delong, D. (1997). Building the knowledge-based organization: How culture drives knowledge behaviors. **Center for business innovation.**

DeTinne, K.B., Dyer, G., Hoopes, C., & Harris, S. (2004). Toward a model of effective knowledge management and direction for future research: Culture, Leadership, and CKOs. **Journal of Leadership & Organizational Studies**, 10(4), 26-43.

Ekbia, H.R., & Hara, N. (2008). The Quality of Evidence in Knowledge Management Research: Practitioner versus Scholarly Literature. **Journal of Information Science**, 34(1), PP. 110-126.

Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. **Journal of Management Information System**, 18(1), 185- 214

Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. **Journal of Management Information System**, 18(1), 185- 214

Gottschalk, P. (2008). IT in Knowledge Management. In M. E.Jennex, **Knowledge Management: Concepts, Methodologies, Tools, and Applications** (pp. 452-467). New York: Information Science Reference.

Goucher, N.P. (2007). **Organizational Knowledge Creation to Enhance Adaptive Capacity: Exploratory Case Studies in Water Resource Management**. Doctoral dissertation, University of Waterloo.

Gupta, A., & Govindarajan, V. (2000). Knowledge flows within multinational corporation. **Strategic Management Journal**, 21(4), 473-496

Hurley, T. A., & Green, C. W. (2005). **Creating a knowledge management culture: The role of task, structure, technology, and people in encouraging knowledge creation andtransfer**. http://www.midwestacademy.org/Proceedings/2005/papers/HurleyGreen%20revision.doc

Ignacio, J., & Rodrı́guez-Ruiz, o. (2008). EFQM model: knowledge governance and competitive advantage. **Journal of Intellectual Capital** , 9(1), 133-156.

Janz, B. D., & Prasamphanich, P. (2003). Understanding the antecedents of effective knowledge management: The important of a knowledge-centered culture. **Decision Sciences**, 34(2), 351-384.

Kangas, L. M. (2005). **An assessment of the relationship between organizational culture and continuous knowledge management initiatives**. Doctoral Dessertation, Capella University.

Knapp, E.M. (1998). Knowledge Management. **Business and Economic Review**, 44(4), 3-7.

Laupase, R. (2003). **The process of converting consultants tacit knowledge to organization explicit knowledge: Case studies in management consulting firms**. London, IRM Press.

Lawson, S. (2003). **Examining the relationship between organizational culture and knowledge management**. Doctoral dissertation, Nova Southeastern University.

Lee, H., & Choi, B. (2003) Knowledge management enablers, Processes, and Organizational Performance: An integrative view and empirical examination. **Journal of Management Information System**. 20(1). 179-228.

Mavondo, F. & Farell, M. (2004). Cultural orientation: Its relationship with market orientation, innovation and organization performance. **Management Decision**, 41(3). 241-249.

Ngoc, P.T. B. (2005). **An empirical study of knowledge transfer within Vietnam's information technology companies**. Http:// diuf.unifer.ch/is/staff/ngoct/files/internal working paper- 10-6.pdf

Nonaka, I., & Takeushi, H.(1995). **The knowledge-creating company: How Japanese companies create the dynamics of innovation**. New York: Oxford University Press.

Nonaka, I., Toyama, R. and Konno, N. (2001), "SECI, Ba and leadership: a unified model of dynamic knowledge creation", in Nonaka, I. and Teece, D. (Eds), **Managing Industrial Knowledge – Creation, Transfer and Utilization** (pp. 13-43), London: Sage.

Odell, C. & Grayson, C. (1998). If only we knew what we know: Identification and transfer of internal best practice. **California Management Review**, 40(3), 154-174.

Park, K. (2006). **A review of the knowledge management model based on an empirical survey of Korean experts**. doctoral dissertation, University of Kyushu, Korea.

Pentland, B.T. (1995). Information system and organizational learning: The social epistemology of organizational knowledge system. **Accounting, Management and Information Technologies**, 5(1), 1-21.

Preto, I.M., & Revilla, E. (2004). An empirical investigation of knowledge management styles and their effect on learning capacity. **Management Research**, 2(2), 133-146.

Probst, G., Raub, S. and Romhardt, K. (2000), **Managing Knowledge: Building Blocks for Success**, New York : John Wiley & Sons

Probst, G., Raub, S. and Romhardt, K. (2000), **Managing Knowledge: Building Blocks for Success**, New York : John Wiley & Sons

Probst, G., Raub, S. and Romhardt, K. (2000), **Managing Knowledge: Building Blocks for Success**, New York : John Wiley & Sons

Robbin, S. P. (2004). **Organizational behavior** (11th ed). Upper Saddle River, NJ: Prentice-Hall.

Rowley, J. (2000). Knowledge organization for a new millennium: principles and processes. **Journal of Knowledge Management**, Volume 4 . Number 3. pp. 217-223.

Sabherwal, R., Becerra-Fenandez, I. (2003). An empirical study of the effect of knowledge management processes at individual, group, and organizational levels. **Decision Science**, 34(2), 225-260.

Schmink, M., Ambrose, M. L., & Cropanzane, R. S. (2000). The effect of organizational structure on perception of fairness. **Journal of Applied Psychology**, 85(2), 294-304.

sharma, S. K., Gupta, J. N., & Wickramasinghe, N. (2008). Information Technonlogy Asessment for knowledge Management. In M. E.Jennex, **Knowledge Management: Concepts, Methodologies, Tools, and Applications** (pp. 218-240). New York: Information Science Reference.

Shin, M., Holden, T. & Schmidt, R.A. (2001). From knowledge theory to management practice: Toward an integrated approach. **Information Processing and Management**, 37(2), 335-355.

Slater, L. (2004). Collaboration: A framework for school improvement. **International Electronic Journal For Leadership in Learning**, Vol.8, No.5, http://www.ucalgary.ca/~iejll/volume8/Slater5.html

Song, M. & Fang Zhang & Bij, van der H.. & Weggeman, M.C.D.P.(2001). "Information Technology, Knowledge Processes, and Innovation Success," **ECIS Working Papers** 01.07, Eindhoven Centre for Innovation Studies, Eindhoven University of Technology.

Spender, J. C. (1996). Making knowledge the basis of a dynamic theory of the firm. **Strategic Management Journal**, 17(Winter), 45-62.

Syed-Ikhsan, S. O. S, & Rowland, F. (2004). Knowledge management in public organization: A study on the relationship between organization elements and the performance of knowledge transfer. **Journal of Knowledge Management**, 8(2), 95-111.

Tan, S. S., Teo, H. H., Tan, B. C. Y., & Wei, K.K . (1998). Developing a preliminary framework for knowledge management in organization. **AIS Electronic Library (AISeL).** http://aisel.aisnet.org/amcis1998/211

Tata, J. & Prasad, S. (2004). Team Self-management, Organizational Structure, and Judgments of team effectiveness. **Journal of Management Issues**, 16(2), 248-265

Walsh, J. P., & Ungson, G. R. (1991). Organizational memory. **Academy of Management Review**, 16(1), 57-91.

Yang, J. (2008). Managing knowledge for quality assurance: an empirical study. **International Journal of Quality & Reliability Management**, Vol. 25, No.2, pp. 109-124.

Yeh, Y. J., Lai, S.Q., Ho, C. T. (2006). Knowledge management enablers: a case study. **Industrial Management & Data Systems**, Vol. 106, No. 6, pp. 793-810.

Yi, J. (2005). **A Measure of knowledge sharing behavior: scale development and validation**. Doctoral Dissertation, Indiana University.