



FACTORS AFFECTING KNOWLEDGE SHARING BEHAVIOR IN ACADEMIC COMMUNITIES: GROUNDED THEORY

Negin Jabbari¹ --- Mehrdad Madhoshi²

¹Student, Department of Educational management, Islamic Azad university , Sari branch/ Instructor in Islamic Azad university, Gorgan branch, Iran

²Industrial Management Department, Faculty of Economics and administrative science university of Mazandaran, Iran

ABSTRACT

Purpose: The paper aims to develop a framework to account for knowledge sharing Knowledge management policy needs to be reinforced more promptly in order to facilitate sustainable development, business thrival and entrepreneurship. Despite the substantial benefits of organizational knowledge, there has not been any tangible evidence as to how and why employees are typically reluctant to share their knowledge. As a qualitative research, the present study sets to identify the determinants of knowledge sharing at the individual level using grounded theory Methodology: In this regard, a number of 23 faculty members of Iranian universities were selected as the participants using purposive sampling and snowball method. The data was collected through in-depth, semi-structured interview using Strauss and Corbin's constant comparative method. Finding: The results showed that social-emotional relations, market value, personal growth and development, and requirements (internal and external) were the most significant factors affecting knowledge sharing among faculty members. Practical implications: Through identifying the factors leveraging faculty members' inclination toward knowledge sharing, the present findings may help educational managers develop appropriate knowledge management policies to facilitate the flow of knowledge among faculty members.

Keywords: Knowledge sharing, Knowledge transfer, Knowledge worker, Faculty members, Knowledge management, Social network.

Received: 13 July 2013/ Revised: 17 February 2014/ Accepted: 24 March 2014/ Published: 1 April 2014

1. INTRODUCTION

Knowledge sharing (KS) constitutes various prominent aspects. Although material assets are vulnerable to loss, employees may add synergic value to their knowledge through Knowledge Sharing. Arthur Andersen Business Consulting (1997), business consultant, identified key processes of knowledge management (KM). The practices of KM include identification, collection and selection, organization, application, sharing and creation of knowledge. From among these processes, KS appears to be most difficult to implement (Ruggles, 1998).

Research has shown that people tend to emphasize their power and benefits in traditional economy (Kim and Mauborgne, 1998). Therefore, as long as employees consider knowledge and information as personal assets, they will be reluctant to share their knowledge (Senge, 1997).

Davenport (1997) observes that it is considered as atypical for individuals to share and transfer their knowledge as they deem their knowledge as rewarding sources of competitiveness. With regard to these findings, it is vital to develop KM policy because it facilitates knowledge transfer. KS is a social phenomenon that encompasses interpersonal relations and social interaction. It is considered as an important index of KM activities. It is likely that some factors influence employees' personal intention to share their knowledge. Identification of these factors is

the first stage of developing a successful policy in order to manage knowledge within institutional settings. Considering the lack of a comprehensive theoretical framework for identification of the factors contributing to faculty members' inclination for KS, the present study drew upon grounded theory method in order to come up with a theoretical framework in this domain. Accordingly, the following research questions were formulated:

1. What factors contribute to KS in faculty members? What factors (x) may contribute to variations in the dependent variable, KS (y)?
2. How would one explain KS process from various aspects?

1.1. Conceptual Framework and Theoretical Considerations

1.1.1. Knowledge Sharing (KS)

Different researchers use different terms to define knowledge. For example, Starbuck (1992) defined knowledge as the stock of expertise. Purser and Pasmore (1992) suggest that knowledge should be considered as integration of facts, models, schemes, ideas, opinions and intuition in decision-making process. Nonaka (1994) defined knowledge as a justifiable true belief. Ruggles (1998) supports knowledge as a combination of information, experience, benchmark value and norm. Liebowitz and Beckman (1998) consider knowledge as a situation, reality, example, event, rule, conjecture or model that may increase perception or efficiency in a certain area or topic. Elliott and O'Dell (1999) deemed knowledge as information in action. Specifically, Davenport and Prusak (1998) provided a definition of 'working knowledge' whereby knowledge attitudes in institutional settings, as a fluid mix, contains experience, values, contextual information, expert opinion and legality so that it provides a framework for the analysis and incorporation of new experience and information. Based on these reviews on knowledge, our study suggests that the scope of knowledge should include documents, information, technical reports, locus of knowledge and the know-how. Since many bodies of knowledge distribute across a continuous spectrum from entirely implicit to entirely explicit, we may not distinguish KS inclination in terms of implicit and implicit knowledge based on institutional settings.

KS or knowledge transfer is a tool for employees to exchange and discuss knowledge with internal and/or external groups. It is conducted through a variety of channels such as discussions, conferences, formal and informal networks, best practices and databases. It purports to increase the utility value of knowledge in inter-change and creation of combined knowledge. According to Darr and Kurtzberg (2000), KS is a process denoting the gaining of experience from others. Therefore, KS is also referred to as knowledge transfer, which improves organizational learning (Levitt and March, 1988).

Employees may generally readapt to and reconstruct knowledge (Allen, 1977). Human is the only creature that may store both implicit and explicit knowledge together and apply it in new contexts (Berry and Broadbent, 1984; 1987). Therefore, an employee's personal knowledge needs to be shared with other employees' – those who need it to carry out their tasks effectively. It is contended that knowledge transfer occurs at the right time, at the right place and to the right person.

However, as knowledge is considered as a source of power and individual competition, it is particularly difficult to invite employees to contribute selflessly. When we compare KS with other management processes, we may find it the most challenging organizational activity in KM. Consequently, we would like to identify methods to encourage knowledge possessors to share their knowledge. We aim to improve KS activities in the organization through identifying the factors affecting KS inclination. Table 1 illustrates a review on some studies that have addressed KS characteristics.

Table-1. A review on KS literature

Research topic	Researchers	Results
Relationship between learning culture and KS	Taylor and Wright (2004)	An environment, that welcomes new ideas and concentrates on learning from failure, exerts positive effects on KS.
Relationship between norms of interaction and KS (based on social capital theory)	Chiu <i>et al.</i> (2006)	They found a positive correlation between norms of interaction and KS.
The role of management support in KS	Lin and Lee (2006)	They found that top management support of KS nurtures employees' commitment to KM and improves KM quality.
The role of rewards and incentives in KS	Kim and Lee (2006)	Based on a Korean sample, they found that an organization that develops a payment system based on performance is facilitating KS, indeed.
The role of diversity in KS (similarity-attraction paradigm) (2005)	Bakker <i>et al.</i> (2006)	Team members, who considered themselves as holding a vulnerable position based on sex, marital status or education, were less likely to share their knowledge.
The role of inter-personal trust and justice in KS	Davenport and Prusak (1998)	They investigated trustiness in terms of ability, honesty and benevolence. They contended that every organization is in possession of her own knowledge that is also exclusive in labor market.
The role of requirements (knowledge-organizational) in KS	Tang (2000)	KS activities are associated with implicit negative attitudes indicating that knowledge owners protect their assets just as they protect their power.
The effect of individual attitudes on KS	Lin and Lee (2006)	They found a positive correlation between management intention in KS and employees' KS practices.

2. MATERIALS AND METHOD

The present study is a qualitative research conducted based on grounded theory. It is considered as a deductive research that addresses facts and aims to explain events as they occur. The research topic falls within individual-social subjects. Grounded theory adopts an interpretive approach and includes a set of procedures used for systematic collection and analysis of data. It is used to formulate a theory based on the data obtained from studying a phenomenon. Grounded theory was first developed by Strauss and Corbin who grounded their approach on the collection and continuous comparison of the data as well as simultaneous development of concepts (Bazargan, 2010). Qualitative studies, particularly grounded theory, are conducted when there is scarcity of evidence on a phenomenon, or when there is lack of a comprehensive theoretical framework in the studies conducted on a topic. The present researchers did not find any previous study on the factors affecting KS in universities. Thus, lack of a theoretical framework encouraged the researchers to conduct the present study as a qualitative research.

The participants of the study consisted of a number of 23 faculty members from different disciplines. The population of the study consisted of all universities in Gorgan city with over 5000 students in total. The select universities included Islamic Azad University, Medical Science University and Golestan University. The participants were selected through purposive sampling using snowball method. The data was collected using in-depth, semi-structured interview. The data was critically analyzed using Strauss and Corbin's constant comparative method so that the data was continuously analyzed to complement imperfect findings through obtaining new information from the subjects. Each interview took 40-80 minutes. When the interview data became repetitive, the data collection process was ended. Beside interview data, other data collection techniques such as observational data, documented data and audio-visual material were also used. The data saturation stage was felt to reach from the nineteenth interview on. However, interviews continued up to 23 sessions to gain further assurance about data saturation. In the twenty-third interview, the researchers made sure that the data was repetitive, denoting data saturation. Therefore, the interviews were ended then. Ethical issues such as informed consent, lack of pretention, data confidentiality and anonymity were closely observed.

The interview began with this open question: 'how would professors share their knowledge in your university?' Other questions were asked based on the interview process so that the researchers posed probing questions during the interview to confirm his understanding of the interviewees' answers. The themes and meanings were extracted from the answers provided by interviewees. Knowledge is associated with personal values and orientations. Personally developed, knowledge invariably depends on the study and the environment (context) in which one studies. While probing the topic of interest, the researchers withheld assuming a researcher expert position that aims to pose the 'best' questions. Beyond these considerations, we located the research design within a certain basis consistent with theoreticians and experts' opinions. The questions differed in the research process to account for our emerging perception of the research topic.

3. RESULTS

Following initial arrangement, the data was analyzed carefully. Through conducting the complicated process of meaning extraction, we developed a logical paradigm from the emerging theory using open coding, axial coding and selective coding techniques. Eventually, from among a number of 427 open codings, the factors affecting KS were considered as the main variables at the center of the process of interest. KS variables were categorized into four components: social-emotional relations, market value, personal growth and development, and requirements. Every component has certain properties that provide more information on the component. They are considered as coding sub-components. In this regard, social-emotional relations consists of two sub-components of group solidarity and a sense of responsibility. Market value is characterized by receiving the equivalence of knowledge. Personal growth and development consists of academic ability and granted authority. Requirements comprise two subcomponents including the nature of knowledge and organizational perspective. Different sub-components of these four major components fall on a continuum. They will be explained by examples from either extreme of the continuum.

3.1. Social-Emotional Relations

It refers to relations where people feel a sense of belonging to a group. Social capital is associated with prominent sociological variables such as trust, awareness, showing concern for others and public problems, participation in public activities, group solidarity and cooperation. It is assumed that groups and societies, that enjoy social capital, may achieve goals that are inaccessible without such social capital. In this study, social-emotional relations were identified with group solidarity and a sense of responsibility.

3.2. Personal Growth and Development

It may be explained by social exchange and social capital theories whereby organizational rewards such as promotion, bonuses and increased salary are positively associated with the frequency of cooperation and knowledge contribution that result from sharing in KM, particularly when employees assume the same organizational goals (Kankanhalli *et al.*, 2005). The participants supported equal rights in KS. They would like to cooperate only within a certain scope that equals what they expect from their counterparts in return. In this regard, the two factors of expected reward and expected coherence were identified.

3.3. Market Value

With regard to market value, the data shares are evaluated based on quality and quantity. That is, they are evaluated either in financial terms or in terms of value. Social exchange theory proposes that individuals weigh up returns against costs so that they establish their decisions based on the expectation to receive rewards such as respect, reputation and tangible incentives (Blau, 1964). Consistent with this theory, research has shown that received benefits are positively associated with KS while the paid costs exert a negative effect on KS.

3.4. Requirements

With regard to requirements, both social exchange and agency theories have been used in the studies that address management support of sharing relations. There are individuals with access to higher-order resources and facilities. They may want to share knowledge while low-rank individuals follow them. French and Raven (1959) contend that power assumes various levels in a hierarchical organization. People with higher occupational position or superior bureaucratic ranking have stronger sharing power. They take an important role in influencing, decision-making and lobbying. On the other hand, the nature of knowledge itself imposes sharing requirements. We have divided requirements into two subsets of organizational and knowledge requirements.

Other components comprise causal, contextual and intervening conditions as well as strategies and outcomes. In order to represent this process schematically, Table 3 illustrates open coding on the right and axial coding paradigm on the left. Studying the table from right to left would help understand causal conditions affecting the main variable (KS determinants), context, mediatory conditions and strategies as well as strategies affecting outcomes. The third stage involves selective coding in which a theory was developed to account for the relationship among the variables. The following figure illustrates a modified and refined version of the theory.

Table-2. Illustrates open and axial coding paradigm

Dimension	Variables	Attitude	Index
Predisposing factors	Common ideal and interests	Personal trait	Individual's attitude (personality, sense of belonging) Individual's social skills
		Common interests and benefits	Similarity of interests and abilities Common needs
	Disciplinary characteristics	Source of knowledge	Type of knowledge Trust in security Professional sense of belonging Threatened self-worth Differential experience of counterparts
		Relations of knowledge source with recipients	Adherence to professional ethics Respecting veterans Protecting copyright (exclusive)
	Social-cultural support and cooperation	Cultural-educational factors	Social awareness of new technology Existing values Prescribed attitudes Habits Prestige of knowledge in society
		Social-economic factors	University-industry relations Economic status quo Supporting domestic knowledge production Supporting private sector Economic profession of knowledge production

Dimension	Variables	Attitude	Index
Intervening factors (depending on mechanisms)	Conditions and facilities	Human	Access to suitable, knowledgeable human resources
		Financial-material	Enough time Creating sharing spaces Integration of IT systems and processes Existing rules
	Department-college management	Educational	Understanding sharing benefits and interaction methods

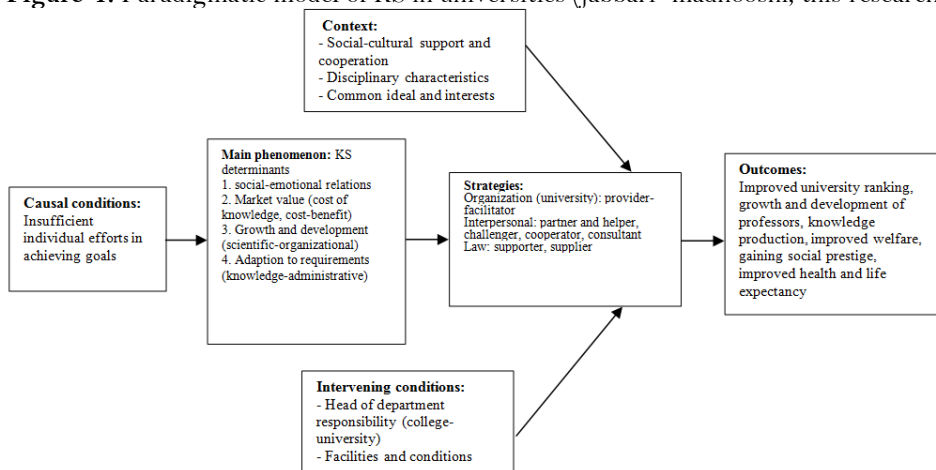
		Managerial	<p>Providing new education and training Familiarity with modern technologies</p> <p>Leadership ability, authority, using organizational incentives, structural change (from vertical to horizontal), appreciating individual competencies, creating a fair evaluation system, ability to enforce law (individuals' property rights), defining underlying projects consistent with needs, organizing specialized teams, supporting individual creativity and abilities, holding realistic expectations of team members, creating interaction conditions based on cooperation and consultation</p>
--	--	------------	--

Dimension	Variables	Attitude	Index
Factor	Social-emotional relations	<p>Cooperation \longleftrightarrow group solidarity \longleftrightarrow Interests</p> <p>Internal \longleftrightarrow organizational duty- a sense of responsibility \longleftrightarrow External</p>	<p>Drawing upon others' experiences A sense of group belonging Gaining group support Establishing friendly relations Cooperation with group members</p>
	Market value	<p>Comercialization \longleftrightarrow receiving an equivalence \longleftrightarrow Monetary-financial Payment</p>	<p>Compensation- Give & take Earning money and financial benefits –commercialization</p>
	Personal growth and development	<p>Top position department \longleftrightarrow organizational credibility \longleftrightarrow Head of</p> <p>Thrival and expertise (global recognition) \longleftrightarrow academic ability \longleftrightarrow Annual promotion (university-department)</p>	<p>Organizational position –top position</p> <p>Publication of books, articles and production of knowledge</p>
	Requirements	<p>Sustainable knowledge \longleftrightarrow nature of knowledge \longleftrightarrow knowledge Credibility (short-term)</p> <p>Legal requirement \longleftrightarrow organizational perspective \longleftrightarrow Informal departmental requirement</p>	<p>Knowledge growth and development, diversity of knowledge, shelf life of knowledge, receiving feedback or modification of findings</p> <p>Organizational hierarchy obligation Legal obligation, scarcity of students Position obligation, using laboratory, equipment and facilities</p>

Dimension	Variables	Attitude	Index
Strategy	Law	Supplier, supporter Restrictive (inhibitor) Modification of law	Material and spiritual copyright Defined responsibilities Monopoly
	Individuals' relationship	Relations network	Partner and helper, cooperater, consultant, transparent relations
	University	Facilitator-provider	A sense of group attachment (synchronous development) Creating sharing space Developing group projects Recruiting homogenous, competent people Creating trust
Outcome	Excellence of human ego (individual) Development of ideas (knowledge) Improvement of lifestyle and social welfare (society)	Deriving satisfaction, gaining identity Developing a culture of trust Increased group solidarity	Improvement of health and life expectancy Knowledge production, creation and research Self-confidence Development of personal abilities Gaining reputation and appreciation Internal satisfaction Academic ability Personal growth and development Formulating appropriate rules
Causal conditions	Perceived needs	Individual inability Diversity of human needs	Individuals' physical limitation in achieving their goals Individuals' mental limitations in achieving their goals Individuals' material limitations in achieving their goals

As shown in Table 3, the main variables were identified based on the obtained conceptual codes. These variables denote the most abstract level of data classification and analysis in the present study. Considering the relationship among the six variables, they are presented in a paradigm as illustrated in the following figure.

Figure-1. Paradigmatic model of KS in universities (jabbari- madhooshi, this research)



3.5. Interfaces (Mediators)

In this study, we dealt with a number of intervening factors that eventually came to mediate a process that penetrated into the multiple relationship model of KS intention. Some indirect, additional mediators - intervening variables (contextual-mediatory) – represent various institutional settings with different time, space and environmental settings. These intervening variables may create various KS relations among employees.

3.6. Causal Relations

The participants considered in the interviews that causal relations accounted for KS in universities. Causal relations may be encapsulated under the general variable of ‘insufficient individual efforts in achieving goals.’

As the determinant of sharing practices, needs appear to alter with increased age and altered position. Every need with a strong background may be given priority in order to broaden and expedite sharing process (more implicit, longer duration).

3.7. Intervening Conditions Affecting Strategies

Intervening conditions may either facilitate or hinder strategies. Based on the obtained data, intervening conditions were categorized into two components of ‘management’ and ‘conditions and facilities’, each containing further sub-components, as illustrated in Table 3. The management component entails educational and managerial sub-components. The interviewees suggested strategies that were presented under the variable ‘university’ in strategy dimension. Conditions and facilities were also considered as intervening conditions. The interviewees referred to human and financial-material components in this regard.

3.8. Strategies Pertaining to the Phenomenon of Interest

The strategies are classified into three components of law, individuals’ relationship and university, which may pave the way for faculty members to enter scientific networks and share their knowledge.

3.9. Context

The context of a phenomenon is indeed the locus of events for that phenomenon in which its actions and reactions take place. In the present study, universities were the locus of events pertaining to the main research phenomenon. Within this phenomenon, faculty members were studied who primarily reported that academic settings contributed to the procedures developed for this phenomenon.

3.10. Outcomes

Outcomes are the results produced by strategies. They are categorized into three components including individual, knowledge and society.

4. DISCUSSION AND CONCLUSION

The results showed that a culture emphasizing trust and innovation might lead to KS. It seems that organizational culture indirectly affects KS practices but directly influences management attitude toward KS. Research has shown that organizations with innovation-supporting cultures are more likely to implement KM system so that information sharing is facilitated through internal norms, which encourages individuals to share their knowledge. HR performance may improve organizational culture through fairness in decision-making and transparent relations, which may in turn support KS. An organizational environment emphasizing individual competition may set up a barrier to KS whereas perceived team cooperation may help build trust as the prerequisite of KS.

It is important to note that a positive culture is not merely enough to facilitate KS. The results showed that the initial design of KM components assume an important role in this regard. This is because working habits as well as routine, constant KS practices may be balanced with organizational values and goals, bridging individual knowledge, exchange capacity and

organizational knowledge. The implementation of new KM system, emphasizing KS, requires that professors adapt to new KS-dependent attitudes and behaviors and consider the alteration needs in management mechanism. This policy should inevitably change the existing situation. The activities should be developed so that we would make sure that professors are content with the change process (e.g. stress and concerns decrease over the change process). The results also revealed that management/supervisor's support is vital for KM and sharing practices to succeed. Management support of KS may realize with emphasis on sharing 'the lessons learned' rather than 'recalling mistakes'.

Furthermore, it seems that KS increases among the academics via improving professors' self-efficacy through training. It is important for universities to contribute to the development and facilitation of faculty members' perception of knowledge ownership so that they may understand that KS brings them internal satisfaction. Universities need to consider cultural variables in the development of HR management procedures so that they may facilitate KS. In other words, there is no prescribed set of methods to facilitate KS. Therefore, organizations need to make appropriate adjustments and adaptations between incentives and cultural settings.

Funding: This study received no specific financial support.

Competing Interests: The authors declare that they have no competing interests.

Contributors/Acknowledgement: All authors contributed equally to the conception and design of the study.

REFERENCES

- Allen, T.J., 1977. *Managing the flow of technology: Technology transfer and the dissemination of technological information within the R&D organization*. Cambridge: MA: MIT Press.
- Arthur Andersen Business Consulting, 1997. *Zukai knowledge management*. Tokyo: Toyo Keizai.
- Bakker, M., R.T.A.J. Leenders, S.M. Gabbay, J. Kratzer and J.M.L. Van Engelen, 2006. Is trust really social capital? Knowledge sharing in product development projects. *The Learning Organization*, 13(6): 594-605.
- Bazargan, A., 2010. *An introduction to qualitative and combined research methods of common approaches to behavioral sciences*. Tehran: Didar Publications.
- Berry, D.C. and D.E. Broadbent, 1984. On the relationship between task performance and associated verbalizable knowledge. *The Quarterly Journal of Experimental Psychology*, (39): 209-231.
- Berry, D.C. and D.E. Broadbent, 1987. The combination of explicit and implicit learning processes in task control. *Psychological Research*, 49(1): 7-15.
- Blau, P.M., 1964. *Exchange and power in social life*. New York: Wiley.
- Chiu, C.M., M.H. Hsu, E. Wang and T. G., 2006. Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decision Support Systems*, 42(3): 1872-1888.
- Darr, E.D. and T.R. Kurtzberg, 2000. An investigation of partner similarity dimensions knowledge transfer. *Organizational Behavior and Human Decision Processes*, 82(1): 28-44.
- Davenport, T.H., 1997. *Some principals of knowledge management*. Working Paper.
- Davenport, T.H. and L. Prusak, 1998. *Working knowledge: How organizations manage what they know*. Boston, MA: Harvard Business School Press.
- Elliott, S. and C. O'Dell, 1999. Sharing knowledge and best practice: The hows and why of tapping your organization's hidden reservoirs of knowledge. *Health Forum Journal*, 42(3): 34-37.
- French, J. and B.H. Raven, 1959. The bases of social power. *Studies in social power*. Ann Arbor: MI: Institute for Social Research. pp: 150-167.
- Kankanhalli, A., B.C.Y. Tan and K.K. Wei, 2005. Contributing knowledge to electronic knowledge repositories; an empirical investigation. *MIS Quarterly*, 29(1): 113-114.
- Kim, S. and H. Lee, 2006. The impact of organizational context and information technology on employee knowledge-sharing capabilities. *Public Administration Review*, 66(3): 370-385.
- Kim, W.C. and R. Mauborgne, 1998. Procedural justice, strategic decision making, and the knowledge economy. *Strategic Management Journal*, 19(4): 323-338.
- Levitt, B. and J.G. March, 1988. Organizational learning. *Annual Review of Sociology*, (14): 319-340.
- Liebowitz, J. and T. Beckman, 1998. *Knowledge organizations: What every manager should know*. Boca Ration, FL: St. Lucie Press.
- Lin, H.F. and G.G. Lee, 2006. Effects of socio-technical factors on organizational intention to encourage knowledge sharing. *Management Decision*, 44(1): 74-88.
- Nonaka, I., 1994. A dynamic theory of organizational knowledge creation. *Organization Science*, 5(1): 14-37.

- Purser, R.E.R. and W.A. Pasmore, 1992. Organizing for learning. In W.A. Pasmore & R.W. Woodman (Eds.), Research in organizational change and development. London: JAI Press.
- Ruggles, R., 1998. The state of notion: Knowledge management in practice. California Management Review, (40): 80-89.
- Senge, P., 1997. Sharing knowledge. Executive Excellence, (14): 17-18.
- Starbuck, W.H., 1992. Learning by knowledge intensive firm. Journal of Management Studies, (29): 713-740.
- Tang, L.I., 2000. Research of the network of knowledge sharing. Master Thesis. Nat'l Cheng-Chi University.
- Taylor, W.A. and G.H. Wright, 2004. Organizational readiness for successful knowledge sharing: Challenges for public sector managers. Information Resources Management Journal, 17(2): 22-37.

Views and opinions expressed in this article are the views and opinions of the author(s), International Journal of Education and Practice shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/arising out of the use of the content.