Studying the Personal Knowledge Management Profile: a Case Study at Payame Noor University

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Abstract

The present study examined the personal knowledge management among administrators of Tehran PNU universities in the 2010-2011 curriculum year. The design of research is descriptive and it collected information from 44 participants by census. The tool of this research is self-assessment questionnaire of personal knowledge management that has been developed in 2003 by Dorsey. This questionnaire consists of seven components, each component in turn also having five questions that amount to 35 questions to measure personal knowledge management. In this study, demographic variables consist of education, profession, gender and teaching experience in the university. The results of this study show the evaluation of information and ideas which gained the highest grade of 5 with the average of 4.04 and collaboration with others in the information and ideas which gained the lowest scale with the average of 3.56 among seven components. No meaningful difference was observed in personal knowledge management based on individual variables.

Key words: *knowledge management، personal knowledge management، organizational knowledge، Individual competency profiles, Payame Noor University(PNU)*

Jel Classification: *D83, I23, H83*

Introduction

The discussion of knowledge management has been the subject of many studies in the past decade. Based on paradigm of knowledge management, the organizations, which have knowledge management strategy in the area of intellectual properties, are able to survive in the era of modern knowledge and suggested strategies and cycles. Nowadays, knowledge is well known as a sustainable and necessary source for organizations, competitive advantage but this source and other sources are relevant to a factor that is human capital (Nonaka, 1999). Therefore, human resources management has a major role in helping to correct knowledge management in organizations. The importance of knowledge in economic development was introduced in the 1940s for the first time (Hayek, 1943), but in recent years it has been regarded as an influential source (Nonaka, 1992; Willke, 1998).Globalization, internationalization and heavy competition led to more attention to knowledge and traditional factors of production. Therefore, superior technologies are not considered as single effective factors in the market.

Organizations have found that collecting, analyzing, evaluating and making available the knowledge of personnel, technology products, procedures, structures, customers and competitors are essential and individual and organizational knowledge management cannot exchange to competitive advantage of organizations (Drucker, 1992 and 1995). In this space according to Drucker's opinion, knowledge is the most important source for staffs and entire organization. Labor, land and capital cannot be neglected, but their importance will be reduced to second grade. Personal knowledge management is in the early stages of its growth as one of the elements of knowledge management paradigm. In a wide definition, this concept refers to gaining and organizing personal knowledge and it is based on the skills that earning them implication of presence or absence of individuals with personal knowledge management. The results of a researches showed that personal knowledge management plays an important role in the process of personal knowledge and both individuals and organizations take advantage of its benefits. The role of knowledge management correlates positively and directly with the values of personal knowledge management. Also the other findings of these studies show that the values of personal knowledge management and organizational values are correlated positively and directly with each other (Cheong and Tsiu, 2010). Sliman, Birol & Dagli (2009) in a qualitative research in order to study the extent of using of knowledge management tools by faculty members of Cyprus universities, concluded that about 88 percent of people use information technology. In the present study, the strengths and weaknesses of individuals will be evaluated in the seven components of personal knowledge management by using Dorsey's model.

Literature Review

Knowledge Management (KM)

In the investigation of evolution of knowledge management concept, many of the knowledge management theoreticians were responsible for the development of knowledge discussion among whom we can name distinguished people like Peter Drucker, Poul Strassman and Peter Senge. Drucker and Strassman have emphasized the importance of information role and explicit knowledge as sources of organization and Peter Senge has highlighted organizational learning as a cultural aspect of knowledge management. Chris Argyris, Christopher Burtlett and Leonard- Barton of Harvard University have focused on different aspects of knowledge management. The activities of Everell Rogers at Stanford university and Thomas Allen at MIT present great assistance in the understanding of what knowledge management is. How is knowledge produced? How is it used? And how it will affect the organizations? Human intelligence that was offered to world in 1978 by Ayngl Barrett showed its ability in working with other practical software and systems as quickly as an application and group software. In the middle 1980s, the importance of knowledge as an asset in the competition was known among organizations. And this is in a way that classic economic science is still imperfect in the relation with its making value and some of organizations do not have any special strategy for its management. Computer systems of knowledge management were created in 1980 and they caused the new concepts in world like knowledge acquisition, knowledge engineering, knowledge – based systems and computer- based anthologies. In 1989, in order to preparing knowledge management based on technology, a consortium of organizations started its work in US and declared its initiative as an organization capital. At the beginning, articles and papers related to knowledge management were published in journals such as Solan management Review, organizational sciences review and Harvard Business Review. The first books about organizational learning and KM were published in 1990, such as Petter Senge's book named "Fifth Discipline" and Sakaiya's book entitled "the knowledge value revolution". In 1991 and for the first time, some studies about KM were published in fortune magazine by Tom Sleward. Perhaps the most up to date extensive research work in the area of KM has been done in 1995

by Nonaka and Takeuchi with the title of the knowledge- creating company: How Japanese companies create Dynamics of Innovation? Davenport and Prusak believe that KM must exploit and develop the knowledge assets of an organization to achieve organizational goals. Knowledge management includes both explicit and tacit knowledge. Mike Burk believes that KM help that the right information to be provided for the right people at the right time to make decisions. Knowledge management (KM) can help people and organizations connected with each other and share their knowledge. This guarantees organizations success in competition with other institutions. Based on above definitions, the following can be deduced. First, knowledge management is something that occurs in the organizational environment; second, its materials are organizational knowledge, intellectual capital or intellectual property (Nozari and Zanjani Afshar, 2004, p. 64).

Knowledge Management Strategies (KMS)

Based on a distinction between two types of explicit and implicit knowledge, two different strategies are proposed for knowledge management. KMS are based on two perspectives of knowledge management strategies, explicit and tacit orientation. Hansen et al. believe that there are at least two strategies for KM, namely: the strategy of encryption and private strategy.

Personal Knowledge versus Organizational Knowledge

Some researchers, such as "wake" (1978) and "Simon" (1976) believe that organizations do not have learning capabilities and people learn more in organizations. However, some researchers, such as "starbuch" (1983), "Nelson" and "winter" (1982) believe that organizations evolve through their learning capabilities. Organizations learn and acquire the knowledge through their documents and daily business programs that are in certain corporate records (Nelson and writer 1982). The way that knowledge of different daily documents and programs is integrated and new knowledge is created, is shaped by organizational culture and history (Barney, 1986). In this sense, the organization is considered a problem solver. In other words, available learning in an organization will be affected a lot by the complexity of the tasks and the organizational environment. As noted, personal knowledge and organizational knowledge are distinct from each other and interdependent. The amount of interactions of each individual with others depends on organizational culture (Bath, 1999). In other words, in complex situations, in a place where organizational duties are dependent on each other a lot and employees can not have the necessary levels of expertise for solving interdisciplinary problems, they need to cooperate in order to associate their expertise and knowledge. Many of these tasks occur in professional companies, where people are usually specialized due to their career and educational background in certain areas. As companies do their professional duties in their specialized fields, they can easily do without having to interact with others. However, when the task is complex and it needs coordination of proficiencies from many interdisciplinary areas, individuals at high levels interact with others (Kheyr Andish and Afshar Nazhad, 2004).

Positions of Human Resource Management in Knowledge Management

There are two orientations in the area of appearance of knowledge management in one paradigm, information technology affects ideas and thoughts about knowledge management and in the other, organizational learning plays a major role in KM. In order to effectively be involved in corporate strategy, organizations must strengthen the relationship between knowledge management and human resource management (Shafy and Shafy, 2007). The dual paradigm nature of KM states strategies that are created by information technology shows completely different characteristics with organizational learning strategy, while the information technology emphasizes technology and data collection. Organizational learning is more focused on people and processes and it has human thinking.

Definitions and Theories of Personal Knowledge Management

The main definitions and theories in the area of personal knowledge management is presented by Ferend and Hikson (1999), Avery et al (2001), Higgson (2004), Jefferson (2006), Volkel and Abecher (2008), Jerome Martin (2008), Harold Jarche (2010) that are introduced briefly. According to Ferend and Hikson's opinion (1999), personal knowledge management is a system that people designed for personal use. It is a conceptual framework for organizing information that the person feels that they are important enough that they can be part of the knowledge structure. Avery and Colleagues (2001) in personal knowledge management assume that people prepared a conscious system of the capabilities and limitations that tells them how much they understand. Paul Darcy (2003) counts seven inevitable skills to address the challenges faced by the intelligence community: accessing information - using print and electronic resources, evaluate information - determining different criteria for assessing the quality and relevance of information, organizing information - using folders, web pages and databases, data analysis, using models and theories for understanding the information, presenting information - transferring information to the audience with audiovisual tools, collaborating with others in the information - using electronic tools to solve the problems and communication, supervising the information - backing up data and archiving. The concept of Darcy's personal knowledge management revolves around the processes that lead to the creation of information. Tsui (2002) according to a technology- based explains the different tools of that time. In this view, personal knowledge management is a set of processes that people need it to perfume their daily learning activities, such as: collection, classification, storage, search and retrieve the information.

Berman and Annexstein (2003) according to Avery and colleagues' model, defines that the realization of personal knowledge management depends on security of information system, existence of algorithms for generating metadata and create applications for the use of information. This model seeks tools to capture and reflected the individual's information. Pollard (2004), presented his model with emphasizing in business and information processing and social activities. Acquiring the information includes discovering information, finding and retrieving information, translation, review and study, learning and sharing information resources. Information processing includes writing, analysis, quotes, interpretation, editing, annotation and sharing of knowledge social activities include finding experts, collaborate and interact with people. According to Higgison's opinion (2004) PKM can be interpreted as personal information management and this data is significant, valuable and accessible to people. This concept includes the networks, relationships and communication, making life easier and more enjoyable and operation of private capital. Efimova (2005), calls PKM an iterative process between staff, people and ideas. This approach supports staff learning utilization by studding their work and believes this leads to individual productivity and time management. Efimova remembers web lag as an example of personal knowledge management work. Jefferson (2006) believes that PKM is a down-to-up approach. The purpose of it is giving the opportunity to people to gather and share the information. PKM allows people managing their texts that constantly have to deal with them. Volkel and Abecker (2008) interpret PKM as a process that people can manage their knowledge. PKM deals with personal knowledge. According to their opinion, we live in a sea of information. Our problem is that we listened to large amounts of noise to find small pieces of information that we need. Some problems are related to the essence of knowledge management that includes: classification, nomenclature, and separations and measurement and evaluation. According to Martin (2008), PKM is dealing with the question of what knowledge we have and how we can organize it .Harold Jarche (2010) introduced PKM as a personal and regularly process in which information, views and beliefs will be expressive. Free from numerous definitions from different authors, the main purpose of PKM is to prepare a framework to manage the new information in order to create efficiency. In case individuals successfully perform this work, they encounter problems easily, learn from new experiences and create new knowledge. This issue is an interactive and constant process that is not independent

of the other knowledge management process. Currently, the development of PKM is divided into two distinct areas: skills field or activity-oriented and technology- oriented. Skills imply to individuals' ability in their learning activities management but technology- driven mainly implies on classification, selection and development of tools. Range of PKM is developed from individual to collective. The individual approach implies more creating knowledge, while a team approach refers to sharing knowledge and interacting with others and community.

Competences of Personal Knowledge Management

Individual Competence

The concept of Individual merits is widely used in human resource management (Boyatzis, 1982; Burgoyne, 1993; Schroder, 1989). Although there are many discussions about this concept, it is spread used. Competence refers to the potential ability for activity in a particular context and it focuses on individual real activity. Hence, the person must have it with himself (Schroeter, 2008).The concise Oxford English Dictionary interprets competence as the ability of doing task and adequacy. Cheethom and Chivers (2005) state a general definition of the competence: Competence is an effective overall performance in a profession that settles in a large between the lowest and the highest level of expertise. Some writers try to identify what competences are required for different people. Cheetham and Chivers (1996) count four components in this regard: functional competence, interpersonal competence (behavior), cognitive competence (knowledge) and value and moral competence. Functional competence, which contains the actual requirements of an activity leads to an outcome. Behavior competence refers to an observable and suitable behavior in work's situations. Cognitive competence is special knowledge of a specific situation and effective use of it and moral competence indicates the suitable and effective use of values in professional situations.

Organization Competence

An effective knowledge organization must create an active, harmonious, complex and spread knowledge capacity and coordinate it with other strategic activities within and outside of the organization (King, 2008). According to King, an effective knowledge organization should follow a hierarchy of goals. These goals include: improving quality, improving organizational process for innovation, individual learning, collective learning, group problem solving and sharing of knowledge, improving quality and impact of decisions and action which are taken by organization and improving organizational performance.

Conclusion and Theoretical Base Presentation of Study

Personal knowledge management attempts to help individuals in information, knowledge and Personal experiences management. PKM is a system that is created by individuals and based on their characteristics to use Personal knowledge. In fact PKM is a response to individuals feeling and desire to learn more and improve their awareness and knowledge. This science provides an area for aware of knowledge in the mind, documents and its systems, management and solving its need to some knowledge that they don't have. PKM is a framework consists of technology, personal skills, processes and methodologies. The approach of PKM toward knowledge management is in order to increase staff productivity with equipping them tools and techniques that they are daily face with them. PKM can require as well as a process to find information, create, acquire, share, they will collect, organize and ultimately it acts as part of their daily activities. A favorable personal knowledge management observes their improving performance, facilitating working life and monitoring their workload (Jefferson, 2006). The definitions presented in the case of PKM revolve around a set of key issues: the management and

production of personal knowledge and information in a manner that will be accessible, meaningful and valuable for individuals, networks create communication, make life easy and more enjoyable and eventually emerge personal assets (Higgison, 2004). Existence information in regard to knowledge management often focuses on creating and sharing knowledge across the organization and it does not consider the quality of cognitive activities communication of different people. Avery and others (2001), was defined PKM as a structured process to manage information into useful knowledge. Seven proposed key skills include: accessing information and ideas, evaluating information and ideas, organizing information and ideas, analyzing information and ideas, conveying information and ideas, collaborating with other on information and ideas, using information and ideas. The initial conceptual model of this research based on theoretical principles is presented according to PD NO.1, the manner of measuring the dependent variable (criterion) and the correlation of dependent variables (predictive):
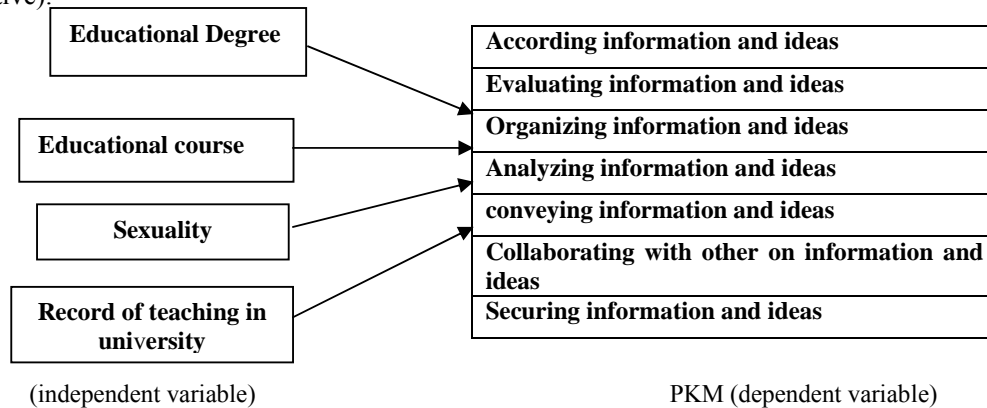

(independent variable)   PKM (dependent variable)

Fig. 1. Conceptual Framework of research

Methodology

This study is descriptive (non-experimental), in terms of research design; sectional, in terms of time; extensive, in terms of space; applied in terms of purpose and survey in term of method.

Measurement

The tool of this research is a self- assessing questionnaire of PKM that is developed in 2003 by Dorsey and has been introduced in PKM NET by Jonathan Goade and Scoward Award Winner. This questionnaire consists of seven components, each component in turn also containing 5 questions that in total amount to 35 questions:

o   Assessing information and ideas**:** questions 1 to 5;
o   Evaluating information and ideas: questions 6 to 10;
o   Organizing information and ideas: questions 11 to 15;
o   Analyzing information and ideas: questions16 to 20; conveying information and ideas: questions 21 to 25;
o   Collaborating with others on information and ideas: questions 26 to 30;
o   Securing information and ideas: questions 31 to 35.

Each of the above thirty-five questions, are rated based on the following scale:

o   I mentioned this to others = 5 points;
o   I can do = 4 points; I can bring it out = 3 points;
o   I have done it previously but not now = 2 points;
o   I don't know how do it = 1 points.

This tool has content validity, in terms of similarity of each component to the relevant component and the Cronbach alpha's method is used for obtaining tool's reliability in order to access the internal consistency for each of seven components, that coefficient is reported between 72 to 89 percent in the above-mentioned components.

The Sample

Participants at this research are the administrators of one of PNU centers of Tehran province that are 44 people according to the latest statistics. With regard to the limited number of individuals, in this study, Sampling has not been done and the census has been accomplished. One of most important reasons of selecting administrators of PNU centers is due to the definition of know-ledge management and the role of these people in the preparation of the necessary arrangements to implement the knowledge management in organizations. In order to comply with ethical standards, a meeting was held with the Participants of the research and were justified the aims of the research and ambiguous points were explained according to theoretical principles. Finally after the primary screening of data, data were analyzed by Spss 11.0 software.

Findings

There were 6 females (17%) and 30 males (83%) in total of 36 participants in the research. According to educational degree, possessing of master's degree, doctoral and doctoral students are respectively 17%, 44% and 39% and the educational course of only 17% of participants were management and the other 83% were non- management.

Table 1. Scores of seven- dimensions, study case of PKM

| Row	Dimensions	Frequency	Minimum grade	Maximum grade	Average	Standard deviation	Coefficient of skewness
1	Accessing information and ideas	36	1	5	3.94	1.07	-1.68
2	Evaluating information and ideas	36	1	5	4.04	0.96	-1.84
3	Organizing information and ideas	34	1	5	3.78	1.11	-1.07
4	Analyzing information and ideas	34	1	5	3.79	1.09	-1.32
5	conveying information and ideas	36	1	5	3.58	1.24	-1.07
6	Collaborating with others on information and ideas	35	1	5	3.56	1.18	-0.99
7	Securing information and ideas	36	1	5	3.57	1.15	-1.25
8	Average	36	1	5	3.73	1.02	-1.36
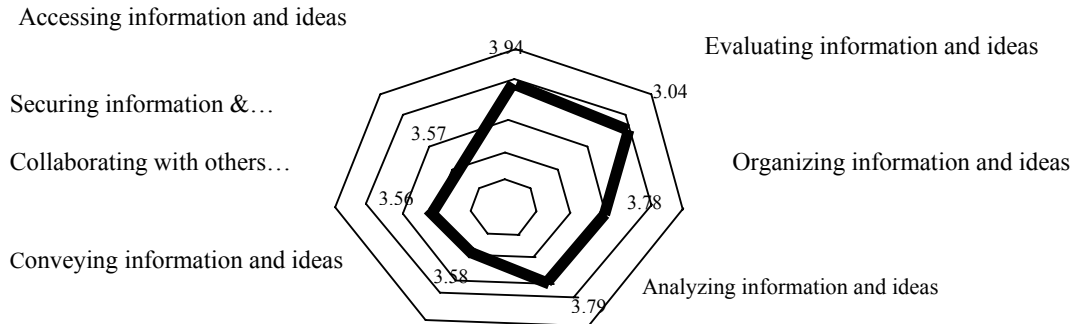
Fig. 2. Radar Chart for the Average of the components of PKM

The Main Research Question: To what extent do managers have personal knowledge management?

Table 2. The personal knowledge management dimensions analysis

Row	Dimensions	Frequency	Average	Standard deviation	T	Degree of freedom	Significantly
1	Assessing information and ideas	36	3.94	1.07	5.26	35	0
2	Evaluating information and ideas	36	3.04	0.96	6.48	35	0
3	Organizing information and ideas	34	3.78	1.11	4.13	33	0
4	Analyzing information and ideas	34	3.79	1.09	4.19	33	0
5	Conveying information and ideas	36	3.58	1.24	2.8	35	0.01
6	Collaborating with others on information and ideas	35	3.56	1.18	2.8	34	0.01
7	Securing information and ideas	36	3.57	1.15	2.95	35	0.01
8	Average	36	3.73	1.02	4.13	35	0

1. *How much do the administrators of Pun center try to access information and ideas*? According to table 2, the extent of the dimension is about 3.94. According to the amount of ($p \pi 0/001$) the null hypothesis is rejected based on this dimension's extent with average ($\mu = 3$) and we conclude the effort to access the information is higher than the average.

2. *How much do the administrators of Pun center try to evaluate information and ideas*?

According to table 2, it should be noted that this dimension of PKM is about 4.04. According to the amount of ($p \pi 0/001$) the null hypothesis is rejected and we conclude that effort to evaluated the information is higher than the average.

3. *How much do the administrators of Pun center try to organize information and ideas*?

According to table 2, it should be noted that the extent of the dimension is about 3.78. According to the amount of ($p \pi 0/001$) the null hypothesis is rejected based on this dimension's extent with average ($\mu = 3$) and we conclude the effort to organize the information is higher than the average.

4. *How much do the administrators of Pun center try to analyze information and ideas*? According to table 2, it should be noted that the extent of the dimension is about 3.79. According to the amount of ($p \pi 0/001$) the zero hypothesis is rejected based on this dimension's extent with average ($\mu = 3$) and we conclude the effort to analyze the information is higher than the average.

5. *How much do the administrators of Pun center try to convey information and ideas*? According to table 2, it should be noted that the extent of the dimension is about 3.58. According to the amount of ($p \pi 0/01$) the null hypothesis is rejected based on this dimension's extent with average ($\mu = 3$) and we conclude the effort to convey the information is higher than the average.

6. *How much do the administrators of Pun center try to collaborate with others on information and ideas*? According to table 2, the extent of the dimension of PKM dimensions is about 3.56. According to the amount of ($p \pi 0/01$) the null hypothesis is rejected based on this dimension's extent with average ($\mu = 3$) and we conclude the effort to collaborate the information is higher than the average.

7. *How much do the administrators of Pun centers try to secure information and ideas*? According to table 2, it should be noted this dimension of PKM dimensions is about 3.57. According to the amount of ($p \pi 0/01$) the zero hypothesis is rejected based on this dimension's extent with average ($\mu = 3$) and we conclude the effort to secure the information is higher than the average.

8. *Which of the seven mentioned skills has the highest and the lowest amount*? According to table 2, it should be noted, accessing information and ideas has the highest amount among PKM seven- dimensions and Collaborating with others on information and ideas has the lowest amount than the average, these values are confirmed in the confidence level of 99%.

9. *Are seven skills of PKM different based on individual variables*? Independent variables in this study include: sexuality, educational course and degree. Mann-Whitney U has been used as statistical test to investing educational course and sexuality and Kruskal Wallis test to effect of educational course. The following tables show these tests.

Table 3. Statistical inference table for individual comparison based on educational

	Course	Frequency	Average ranks	Total Ranks	Statistic Mann-Whitney U	Sig (2-tailed)
Personal knowledge management	Management	6	24.75	148.5		
	Others	30	17.25	517.5	52.5	0.113
	Total	36				

According to Table 3, despite the relative superiority of BA management to others, the amount is not so much that can reject the null hypothesis. Therefore existing difference is not confirmed between the two groups.

Table 4. Statistical inference table for individual comparison based on sexuality

	Sexuality	Frequency	Average Ranks	Total Ranks	Statistic Mann-Whitney U	Sig (2-tailed)
Personal knowledge management	Female	6	18.58	111.5		
	Male	30	18.48	554.5	89.5	0.983
	Total	36				

According to Table 4, despite the relative superiority of women over men, the amount is not so much that can reject the null hypothesis. Therefore, no existing difference is confirmed between the two groups.

Table 5. Statistical inference table for individual comparison based on Educational degree

	Sexuality	Frequency	Average Ranks	Total Ranks	Statistic Mann-Whitney U	Sig (2-tailed)
Personal knowledge management	MA	16	18	111.5		
	Doctoral student	6	16.83	554.5	0.395	0.821
	Doctoral	14	19.79			
		36				

According to table 5, despite the relative superiority of Doctoral degree holders than the other groups, the amount is not so much that can reject the null hypothesis. Therefore existing difference is not confirmed between the two groups.

Discussion

Over time, the importance of knowledge and the necessity of its application were known in institutions, organizations and even between individuals. Some strategies were devised and policies were formulated and programs were defined in order to manage the knowledge and exploit of it. Knowledge management is the systematic availability of assets so that everyone can benefit it. Knowledge management provides universal access to knowledge and leads to management and proper use of intellectual assets and knowledge capital of the organizations. Enterprises should create the environment for sharing, transferring and interacting knowledge among members in order to conduct personal knowledge toward organizational goals (Nanaka and Takuchi, 1995). Personal Knowledge Management as a subject of Knowledge management cannot be exempt from this rule. As Hutchins (1991) refers to dealing with difficult knowledge situations in organizations, it is necessary to use interactions and patterns between the members, technologies, and culture of an organization. The structure of knowledge in organization is not limited to scientific available information; it also includes social structure of Knowledge management. What is clearly seen in this research by using of analyzed information is the superiority of personal aspects over social aspects. According to O'Dell and Grayson (1999), learning and knowledge sharing are two social activities. Social interactions focus on individual behavior interaction with learning, sharing and transmission of values, assumption, insights, recognition and involve discourses, social events, wisdom, networks and applications. If there is not any trust, honesty and intimacy in sharing knowledge between individuals, they can not

easily acquire and retrieve knowledge from social resources. Therefore, the creation of trust to facilitate social interactions is a long-term strategy that requires managers to understand human behavior and change organizational culture. Hence, the environment of work must be full of trust and honesty.

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