

# Experimental Investigation of the Relationship between Knowledge Management and Organizational Innovation and Creativity in the District 5 of Tehran Municipality

**Mahsa Tavakoli**

MSc at the Department of Educational Management  
Faculty of Human Science, Islamic Azad University, Sari Branch, Iran

## Abstract

In the present research, effort is made to study the relationship between knowledge management and organizational innovation and creativity district 5 in the municipality of Tehran. This research has been implemented as a survey and the data and information is collected using a questionnaire. The statistical community, including all district 5 municipal staffs. Among different deputies of organization, using the method of multistage cluster sampling proportional to size, 90 individuals were chosen as samples. The findings of the present investigation have shown that, there is a significant relationship between all the components of knowledge management and organizational innovation. As well as the findings of regression analysis shows that the effect of knowledge management independent variable on the organizational innovation is significant and can be fitted to 2.7% of the dependent variable changes of the foregoing explication. The beta coefficient suggests that the pure effect of knowledge management variable on organizational innovation is (219.0) and is fitted for influencing positive also. This means that the increase in the rate of knowledge management results in the increase of organizational innovation and vice versa.

**Keywords:** Knowledge management, Knowledge production, Knowledge transfer, Organizational innovation, District 5 of Tehran municipality.

## INTRODUCTION AND EXPRESSION OF THE PROBLEM

Knowledge is a valuable source that will empower organizations to innovate and compete. This knowledge could be among the staff to be aware of their part. Also having a management process actually creates a system in the organization in which the knowledge work is systematic, and in order to turn knowledge into capital goods, organizations need to try to create a balance between management activities. The process of knowledge management can result in the creation, dissemination, and the use of knowledge in the organization. In fact, knowledge management, in its ultimate goal, seeks to increase the smartness and raise the IQ and intelligence of the organization.

In the knowledge Organizations, knowledge can simply be transferred to the staff. When staff access to organizational knowledge, they know their environment and make it meaningful. They can find new and better methods in their expertise, make it meaningful, and run it up in the implication to enhance the efficiency of the organization too.

Therefore, according to the above description, it can be inferred that knowledge management means: "process, creation, diffusion of knowledge and applying it in order to achieve organizational goals". We live in an era where knowledge is power, and knowledge capitals

operate as a power tool. The task of knowledge management is to manage knowledge capitals of the organization which must undergo a process to reach its goals. Man in his evolutionary history and social evolution has managed to produce and use knowledge to create changes in the society.

Knowledge management in the new era caused tremendous developments in establishing management topics. Knowledge management seeks to capture the knowledge, wisdom, and the value added experience of the staff and also implementation, recovery, and maintenance of knowledge as the properties of organization. As Peter Drucker said, "the secret of organizations' success in the 21st century is knowledge management." Therefore, management of the organizations should adopt a superior knowledge to make more reasonable decisions on the important issues and improve knowledge-based functions. Hence, knowledge management is more important than the knowledge itself which looks for to know how to transform individual and organizational information and knowledge to the knowledge and skills of team and individual in organizations. (Glasar, 2003:214). Although many organizations already have invested in the field of the development of knowledge in the different levels and have been successful, many organizations have failed.

Knowledge management is one of the relatively new topics in the field of management science. This new management practices quickly welcomed by the management specialists, and extensive effort is made to exploit the potential knowledge of individuals in the organizational productivity. Knowledge management actually is the way that based on it, we can access to the hidden findings of individuals' knowledge which in many cases have a significant value. This management approach tries to encourage the spirit of participation and integration in the organizations, and widely put forward collective thinking and sharing ideas. Managers also are trying to use techniques of information and knowledge extraction out of people, and then save and publish it to find a way which may help them in the organizational productivity.

The most important factors underlying the structure of the knowledge-based organization is the structure, culture, and information technology. The success of an organization in the implementation of a strategy, including knowledge management, up to a large point, depends on the organizational culture underpinning and support it gives to that strategy. Efforts of organizations to become a knowledge-based organization will be successful if the characteristics of the required culture for the implementation of knowledge management in the organization are present. Information technology plays an important role in the implementation of knowledge management. Perhaps one of the most important effective factors is the expansion of proper infrastructure of information technology and organizational structure.

Large companies such as Microsoft (the most high-value company in 1998) are the owner of nothing valuable but knowledge and information. Their economic play is to maintain their scientific and technical property policy and expand their realm of knowledge and expertise. Professionals discover new knowledge, invent new products and new processes, manage manufacturing processes, maintain complex machines and equipment very well, and even apply new tools and processes which are the result of knowledge advancement. The creation of human capital due to their nature is a social process, not individual's. Expertise and technical skills of humans grows only when a generation transfers what he's learned to the next generation so as to not spend his time on rediscovering what has been discovered before, but to spend his time and force to advance the existing knowledge and gain new expertise and technical skills. Based on the research conducted by Nonaka and Takeuchi, knowledge creation

and knowledge management of Organizations has always been neglected in management research and particularly in government agencies (Gandhi 2004: 81).

First, to make innovation happen in the Organization, it is necessary for the managers to have the necessary knowledge regarding the internal and external factors that affect the organization. Second, the knowledge must flow freely across the organization. The better knowledge is flowed and published; the possibility of innovation is higher, because more individuals in different positions and levels of the organization are exposed to the new knowledge which interacts with their existing knowledge. Therefore, the present paper is trying to study the influence of knowledge management components and its relationship with organizational innovation of district 5 of Tehran municipality.

## RESEARCH LITERATURE

### Empirical research literature

Rezai et al. (1393) conducted a study titled "factors affecting the implementation of the knowledge management system in the health center of arsanjan town". The findings of this research suggest that, generally, organizational culture, organizational structure, and the capabilities of information technology are effective factors in the implementation of the knowledge management system in the health center of arsanjan. Also according to the provided model, information technology has a role in mediating the relationship between organizational structure and culture with knowledge management. GFI model goodness of fit index in this research equals to 907.0 which indicates goodness of fit index.

Boondao (2013) in a study entitled "factors affecting knowledge management of organizations in Thailand» showed that individual factors such as gender, age, status and education level does not impact on the implementation of effective knowledge management programs. As well as the results of his research suggests that organizational factors such as infrastructures and organizational measurements are effective on the implementation of effective knowledge management programs.

Lopez et al (2009) have investigated the role of information technology and the organizational structure in the implementation of knowledge management. The results of their research showed that capabilities of information technology have direct and indirect effects on the process of knowledge management. In addition, the results of Lopez et al research showed that the organizational structure has a significant impact on knowledge management.

Johnson (2008) with the aim of evaluating the innovation as a component of knowledge management, studied every indices of knowledge management distinctly according to coming up with new ideas, innovation, performance, discovery of a competitive advantage, and other organizational objectives, and showed that each of the knowledge management indices separately leads to higher effectiveness of the organization.

- Levy and Hazzan (2007) also consider knowledge management as a practical aspect of organizational culture and stated how cultural changes are founded by the organizational agility, and have expressed that this change in culture requires knowledge management initiative. They also discussed the applying of the empowerments of knowledge management from the perspective of the agile software engineering and stated how to increase agility through data mining and knowledge management.

- Al Alawi (2005) in a study stated that the implementation of knowledge management is not successful in most organizations, since these organizations have not spread enough information technology and issues related to human, cultural, and organizational development, which is essential for the successful implementation of knowledge management, has been ignored.

## THEORETICAL LITERATURE

### Knowledge management

As the issue of knowledge management for the first time in 1994 Annual Report Swedish company, a leading financial service called Skandia began. The report contains a series of financial analysis which was trying to quantify the value of the company's intellectual capital. This company achieved a quantified aspect which was on spotlight since old times: The Intellectual capital plays a role in financing sustainable incomes at least as much as the size of the traditional financial capital. Skandia proved a matter which managers had speculation and suspicion about for years: knowledge is a valuable asset like other assets needs management, development, and utilization. (Rading 2004:1. (But discussing the knowledge as a vital factor in maintaining competitive advantage firms is not a new thing. Alfred Marshall for more than a century in a book called principles of microeconomics stated "knowledge is our most powerful engine of production" (Marshall, 1999:65). After the Second World War, several scientists also emphasized on the importance of the role of knowledge in economics .Since knowledge management has been studied according to different approaches, as well as, many definitions have been stated, a definition could not be found that a global agreement about it exist. Davenport believes "knowledge management is an effort for the discovery of latent assets in the minds of people and the conversion of this hidden treasure to the Organization's assets so that a wide range of individuals who are involved in the Organization's decision makings can access to the wealth and use it (Davenport, 1998:16). Another author defines knowledge management: knowledge management attempts to make staffs' knowledge (human capital) to a common organization (the structural intellectual capital) (Gandhi 2004:69). According to Schein, knowledge management is a process is that makes it possible for the organization to employ the new knowledge as validation, distribution, and application and thus the range of organizational characteristics with enabling the company to improve the performance of "smarter" (Schein 2001: 5).

### Types of knowledge

The entire knowledge sources are likened to an iceberg which its visible part is explicit knowledge. This part of knowledge can be easily accessed to, identified, and shared. The hidden part of the mountain is what is referred to by the term "tacit knowledge". This episode is a reminder of famous words of Michael Polanyi (1966), which said: "We know more than we can state" (Polannyi1966: 211). Explicit knowledge is the knowledge that can be coded. Examples of this type of knowledge are books, articles, lectures, organizational and other similar documentation compiled methods. In contrast, tacit knowledge is the knowledge that is not easily to be coded. This knowledge, usually within human beings, is the practice of the organization, and even the culture of the communities and organizations implied. Nonaka and Konno (1998) believe that tacit knowledge is highly personal and abstract and hardly expressible. That's why they focused on the dissemination problem of tacit knowledge and also believe that experience is one of the main sources of knowledge creation (Nonaka and Konno 1998: 211). Although tacit knowledge management is far more difficult than explicit knowledge, its value in a competitive advantage in the organization is more. For an efficient knowledge management, the capture of both tacit and explicit knowledge is essential. The real challenge of knowledge management is to have the ability to discern and capture the tacit knowledge so as to be retrieved whenever it is needed. Most of the organizations only focus on

explicit knowledge management which is easy to gain and comprise only 20 percent of the total knowledge of the Organization and they use tacit knowledge haphazardly. Converting tacit knowledge to explicit knowledge is difficult, but not impossible (Gandhi 2004: 375).

### **Knowledge management benefits**

Measurement of capital benefits associated with knowledge is one of the most difficult and challenging modern business topics based on converted knowledge. Quantifying the knowledge is impossible, and it is not so simple to measure the direct results of knowledge management. Benefits of applying knowledge management activities, from technical to strategic level, will affect on the level of culture and productivity of the entire organization. Some of the benefits include:

- Improvement of the competitive responses: empowering organizations to build responsiveness to changes in the market and accelerating time-to-market manager products.
- Reduction of costs and avoid wasting intellectual capital: the capture of tacit knowledge allows the organization to apply that knowledge to maintain the processes for the future application, and removes costs of retraining staff and the professionals.
- Meet needs for global action: Actions which are geographically dispersed need particular challenges in the cultural and knowledge management fields. Organizations that have effective knowledge management can end the spirit of "them and us", and turn whatever that are into "we" and enable the efficient utilization of the dispersed resources maximized.
- Job effectiveness: To implement knowledge management infrastructures, destroys traditional constraints, increased knowledge sharing among staffs, and thus improves the effectiveness.
- Organization effectiveness: tools, templates, and the best applications of knowledge management that is associated with the culture of knowledge sharing culture. A collaboration environment is shaped and the effectiveness of the organization is increased.
- Determining strategic direction: using knowledge culture, improves the creativity and innovation consequently, impacts on the strategic direction (Sivan 2000: 354).

### **Organizational innovation and creativity**

Innovation is meant to fulfill a creative thinking, and organizational innovation is the key to success in the repetitive field of organization. When the topic comes to the word innovation, our attention unintentionally is paid to product innovation and sometimes the production process, and even in some cases, there is no discussion about service innovation. But innovation in the process, marketing, and also management is necessary. When you talk about the importance of innovation and mechanism, we should note that only it is in a "world" competitive environment that we can talk about these concepts.

Importance of organizational innovation in today's situation is very much to win and the survival of companies involved in the competition; because the innovation serves as a decisive element for companies in this situations (saeedi et al., 2010). Innovation is a new or upgraded thing that is in an organization in order to create added value either directly for organization or indirectly for customers. On this basis, innovation can have different aspects, including being fitted to be the innovation as "the process of creating a new technology", "improvement process and upgrading the existing technology", and "the process of converting opportunities into practical operation". Basically, from the perspective of management, it is a process that starts with an idea and ends in a commercial release of improved procedures and new

technique in the production of a product or new service (fakour and Ansari, 2009). Innovation in the provision of the product, including the production of new goods and products, introducing them to the market, and the most important backing is having pristine and new bearing ideas which can produce new product processes, and be used in more efficiency and effectiveness of the organization. One of the procedures for this work is providing the necessary situations to encourage individuals and organizations to offer an idea of innovation which can propel the organization or company to the organizational innovation. Staffs' ideas and talents are the main capital in organizations that act out in this way (saeedi et al).

## RESEARCH HYPOTHESIS

### The main hypothesis

There is a relationship between knowledge management and organizational innovation.

The subsidiary hypotheses

1. There is a relationship between knowledge creation and organizational innovation.
2. There is a relationship between knowledge storage and organizational innovation.
3. There is a relationship between knowledge distribution and organizational innovation.
4. There is relationship between applying the knowledge and organizational innovation.
5. Knowledge management has a positive impact on organizational innovation.

### Research methodology

This research has been implemented in the form of a survey and since the results of this research can be used practically, it is considered as practical part of applied research. The data of this research have been collected at a specified period of time; therefore, according to the time of collecting the data, it is a type of cross-sectional research.

Data and present research information are collected using a questionnaire. The statistical community, including all district 5 municipal staffs. Among different deputies of organization, using the method of multistage cluster sampling proportional to size, 90 individuals were chosen as samples.

### Validity and reliability of the data collection tools

To obtain test validity in this investigation, the face validity is used. In this way, we used the tips and comments from some experts, and then reviewed the questionnaire questions and resolved uncertainties. To assess the validity, cronbach's alpha test is used which its results are presented in the following table.

**Table 1: Cronbach's alpha coefficients of research main variable**

Variable		Number of Questions	value of cronbach's alpha test	
Knowledge Management	Knowledge Creation	8	0.78	0.88
	Knowledge Storage	9	0.72	
	Knowledge Transferring	8	0.89	
	Knowledge Applying	5	0.77	
Innovation		7	0.86	

## Research findings analysis

For the statistical analysis of question responses various methods can be used, the use of which is subject to the conditions and a researcher must have it his mind in relation to his research.

### Descriptive data

First, the collected data with the planned and prepared frequency distribution table is presented in short, and eventually they are interpreted using the other parameters of descriptive statistics (central parameters, mean, median, mode, variance, and standard deviation). In the following table, rating variables is based on mean and variance. It can be concluded that the more mean is, the better variable status is. Thus, mean ranking is based on the value, on the other hand, variance indicates the distribution of the replies. Generally, the smaller variance is, the lower distributions of responses are. And therefore, that variable is located in better status. The following table is a general descriptive data illustration:

**Table 2: Descriptive ranking of measured variables**

Ranking	Measured Variables	Frequency	Median (Ascendant)	Median	Mode	Variance (Descendant)	Standard Variation
1	Knowledge Creation	90	4/075	4	4	0/53169	0/7291
2	Knowledge Storage	90	3/975	4	4	0/59259	0/7697
3	Innovation	90	3/8	3	3	0/62756	0/7921
4	Knowledge Transferring	90	3/7917	4	4	0/68768	0/8292
5	Knowledge Applying	90	3/75	4	4	0/71111	0/8432

As it is shown, the results of both ranking are the same, in other words hypotheses with significant higher mean, have lower variance.

### Analytic data

Hypothesis 1: There is a relationship between knowledge creation and organizational innovation.

Pearson correlation test between knowledge creation and organizational innovation

**Table 3: Correlation test between knowledge creation and organizational innovation**

Variable	Pearson correlation coefficient	P-value
Knowledge Creation and Organizational Innovation	0/214	0.000

The above table represents the coefficient of correlation between knowledge creation and organizational innovation. Due to the correlation coefficient and also P- value, it can be stated that the relationship between knowledge creation and organizational innovation is positive and meaningful.

Hypothesis 2: There is a relationship between knowledge storage and organizational innovation.

Pearson correlation test between knowledge storage and organizational innovation

**Table 4: Correlation test between knowledge storage and organizational innovation**

Variable	Pearson correlation coefficient	P-value
Knowledge Storage and Organizational Innovation	0/365	0.000

The above table represents the coefficient of correlation between knowledge storage and organizational innovation. Due to the correlation coefficient and also P- value, it can be stated that the relationship between knowledge storage and organizational innovation is positive and meaningful.

Hypothesis 3: There is a relationship between distribution of knowledge and organizational innovation.

Pearson correlation test between the distribution of knowledge and organizational innovation

**Table5: Correlation test between knowledge distribution and organizational innovation**

Variable	Pearson correlation coefficient	P-value
Knowledge Distribution and Organizational Innovation	0/243	0.000

The above table represents the coefficient of correlation between knowledge distribution and organizational innovation. Due to the correlation coefficient and also P- value, it can be stated that the relationship between knowledge distribution and organizational innovation is positive and meaningful.

Hypothesis 4: There is a relationship between applying knowledge and organizational innovation.

Pearson correlation test between applying the knowledge and organizational innovation

**Table 6: correlation test between applying knowledge and organizational innovation**

Variable	Pearson correlation coefficient	P-value
Knowledge Applying and Organizational Innovation	0/286	0.000

The above table represents the coefficient of correlation between applying knowledge and organizational innovation. Due to the correlation coefficient and also P- value, it can be stated that the relationship between applying knowledge and organizational innovation is positive and meaningful.

Hypothesis 5: Knowledge management has a positive impact on organizational innovation.  
Regression analysis of knowledge management for organizational innovation

**Table 7: Regression analysis of knowledge management for organizational innovation**

Knowledge management for organizational innovation	Correlation coefficient (R)	R- Squared	$\beta$ coefficient	(Constant) B	P-value
	0.219	0.027	0.219	9.451 0.886	0.000



Table 6 shows that knowledge management independent variable has a meaningful impact on the organizational innovation and can specify 2.7% of the changes of the aforementioned dependent variable. The  $\beta$  coefficient suggests that the pure effect of knowledge management variable on organizational innovation equals to (219.0), and is fitted for positive influencing also. Therefore, the hypothesis of the existence of the relationship between knowledge management and organizational innovation can be confirmed. Of course, it should be noted that the type influencing is positive. This means that the increase in the rate of knowledge management leads to the increase of organizational innovation and vice versa.

### **DISCUSSION AND CONCLUSIONS**

The most important goal of applying knowledge management at a variety of institutions is the rapid adaptation to the surrounding environment changes in order to enhance the effectiveness and more profitability. As a result, knowledge management indicates to the process of how to create, publish and applying the knowledge in the organization. In other words, the ultimate goal of knowledge management includes knowledge sharing among staffs to enhance the added value of existing knowledge in organizations. One of the objectives of knowledge management is creating communication among individuals who know it so that gradually the individual knowledge turns into organizational knowledge. Another goal of Knowledge management is the growth and promotion of knowledge among staffs. In order to do that, it is necessary to learn information technology and understand its underlying influences in this process. In fact, the ultimate goal of knowledge management is increasing IQ or organization intelligence.

Considering that, the present research studies the relationship between the components of knowledge management and organizational innovation, and based on studies conducted in this field and using the comments of experts of this field of study in defining the research main variables, required indices were identified. According to the hypotheses, a questionnaire was designed to examine the attitude of respondents and then using the results of the questionnaire analysis, this relationship was investigated.

According to the findings of the present investigation, all hypotheses offered are approved. Organization in order to create knowledge, they must consider the tacit knowledge of individuals as a rich and hidden source of new knowledge and a base for organizational knowledge creation. But tacit knowledge cannot be shared or transferred easily to others or. Because it is mainly acquired through experience and cannot easily be expressed with words. So, sharing tacit knowledge among many individuals with different attitudes and motivation is an important step in the realization of knowledge creation. Also setting up a comprehensive system of knowledge management and creating a personal portal (CKMS) and setting up a virtual forum (FORUM) and think tank (Think Tank) for the exchange of experiences among staffs with allocated knowledge code in order to maintain immaterial and material rights and encouraging staffs to this and the establishment and continuing the proposed system can increase knowledge management in organizations and more also leads to organizational innovation and creativity.

Knowledge in the knowledge organizations can be simply transferred and given to all staffs. When staffs access to the organizational knowledge, they can know their environment and make it meaningful. They can get new and better ways for things on the run, work together, make up the absence of knowledge, increase their efficiency, persuade customers, and ultimately gain power of effective competition. Organizations that take actions through research and development, or more informal learning processes in order to produce new

knowledge outperform organizations which are knowledge based. Knowledge management deals with issues such as organizational adaptation, survival, and having strength in encountering to growing environmental changes. In fact, knowledge management tries to be a synergistic combination of information processing, information technology and human creative abilities.

Since the findings of this study confirm the relationship between the components of knowledge management and innovation, to achieve innovation, organization managers are offered to strengthen behaviors and knowledge management procedures in an organization.

## Resources

- Al Alawi AI. (2005) the Practice and Challenges of Knowledge Management in Financial Sectors in Bahrain, Asian Journal of Information Systems; 4(1): 101-107.
- Alan, Radding (2002) Knowledge Management a translation by: Latifi, Mohammad Hossein. Samt Publication, Tehran.
- Boondao R. (2013) Factors Affecting Knowledge Management of Organizations in Thailand. International Journal of Conceptions on Management and Social Sciences; 1(1): 22-24.
- Davenport, T.H, (1998), "successful knowledge management projects", Sloan management Review, Vol.10, No.5
- Gandhi, S (2004), 'Knowledge management and reference services', The journal of academic librarianship, vol. 30, no. 5, pp.81 – 368.
- Glaser.B.G, (2003), "the grounded theory perspective II: descriptions remodeling of grounded theory" methodology, sociology press, millvale, CA.
- López SP, Peón JMM, Ordás CJV. (2009) Information Technology as an Enabler of Knowledge Management: An Empirical Analysis, Knowledge Management and Organizational Learning: 4: 111-129.
- Marshal.C, & Rossman.G, (1999), "designing qualitative research", sage thousand oaks, CA.
- Nonaka.I and konno.N, (1998), "the concept of - BA- building a foundation for knowledge creation ", California management review, Vol.40, No.3.
- Polanyi.M, 1966, "the tacit dimension", in prusak.L, knowledg inorganozations, butter worth-Heinemann, London.
- Rezaii.Gholamreza, Rezaii. Leila, and Rezaii.Hamidreza (2014) the factors affecting on implementation of knowledge management system in the Health Network city Arsanjan. The Journal of Health Management, 5, vol 3, 73-89.
- Schein.E.H, (2001), three cultures of management: the key to organizational learning in the 21st century.<http://www.learning.mit.edu/ves/wp/10011.html>.
- Sivan, yesha, (2000), "knowledge processes: driving organizational practices knowledge", web net journal.