

# Investigating the impact of knowledge management On Tehran and suburbs subway organizational innovation: conceptual framework

Seyed Sajjad Mousavi<sup>1\*</sup>, Amirashkan Nasiripour<sup>2</sup>, Soudabe Jalili<sup>3</sup>

<sup>1</sup>Department of Management, Electronic Branch, Islamic Azad University, Tehran, Iran

<sup>2</sup>Science and Research Branch, Islamic Azad University, Tehran, Iran

<sup>3</sup>West Tehran, Islamic Azad University, Tehran, Iran

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## ABSTRACT

**Objective:** Innovation is an inherent part of knowledge management. The relationship between knowledge management and organizational innovation is getting an important issue in this millennium. However, without good capability of organizational learning, an organization cannot retain important knowledge management practices. The literature highlighted few studies that examine comprehensively the relationship among knowledge management, organizational learning and organizational innovation.

**Methodology:** Therefore, the purpose of the study is to examine the effect of knowledge management on innovation directly and through organizational learning, Tehran and suburbs subway is studied. **Results:** The research results indicate that OL has a full mediation effect on KM and OI. However, there are still some confusing relations between KM and organizational learning (OL). **Conclusion:** Therefore, the positioning of OL as a mediator is also an important contribution to this topic.

## 1. Introduction

In this fast-changing business world, innovation has become the mainstay of every Organization. The nature of global economic growth has been changed by the speed of innovation, which has been made possible by rapidly evolving technology, shorter product lifecycles and a higher rate of new product development. Organizations have to ensure that their business strategies are innovative to build and sustain competitive advantage. Innovation has become complex due to changing customer needs, extensive competitive pressure and rapid technological change (Calantone et al., 2002). The complexity of innovation has also been increased by the growth in knowledge available to organizations as basis for innovation. Innovation is extremely dependent on the availability of knowledge and therefore the complexity created by the explosion of richness and reach of knowledge has to be identified and managed to ensure successful innovation (Adams and Lamont, 2003; Cardinal et al., 2001). Innovation plays a key role in providing unique products/services, creating new values that were not recognized, and establishing entry barriers (Hurmelinna- Laukkanen et al., 2008). We found that organizational learning is mixed with knowledge management (García-Morales et al., 2006), and the relationship between knowledge management and organizational learning is not evident.

The purpose of this research is to address the theoretical gaps in the literature. First, a few studies have addressed the relationship between Knowledge Management (KM) and Organizational Innovation (OI) by considering different aspects of Tehran and suburbs subway organizational learning, such as commitment to learning, shared vision and open mindedness. Furthermore, in accordance with Liao and Wu (2010), who suggested there are too few comprehensive studies that examine simultaneously the relationship among, knowledge management (KM) and organizational learning (OL) on different type of Organizational Innovation (OI), e.g. radical process and product innovation, incremental process and product innovation and administrative innovation through mediating effect of organizational learning. Based on the problem statement, the objective of the research is to examine the effect of knowledge management on organizational innovation directly and through mediating variable organizational learning. Consequently, the current study will first examine the relationship between knowledge management and organization innovation. Secondly, this study will determine the relationship amid knowledge management and organizational learning and finally, it purposes to determine the association between organizational learning and organization

\* Corresponding author: [Sajjademousavi@gmail.com](mailto:Sajjademousavi@gmail.com)

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innovation. On the bases of introductions and aims, this paper includes background of study, knowledge-based theory, purposed conceptual framework, hypotheses of the study, methodology and conclusion.

### **1.1 Background of Study**

Since the Organization for Economic Cooperation and Development (OECD) first proposed the concept of a knowledge-based economy in 1996, the competitions among enterprises have turned land, labor, and capital from the past over to knowledge today as an input resource. In the twenty-first century, with increasing specialization and individualization, the changes of industry and technology have become more significant. Knowledge is no doubt the key resource in changeable processes. According to (Quinn et al., 1998) the key ingredient for organizational success in the post-industrial era has gradually shifted from physical asset management to intellectual capital and knowledge asset. The objectives of business today have focused on seeking various channels/sources to obtain new knowledge to maintain sustained competitive advantages (SCAs). Acquiring knowledge successfully in management processes will affect organizational innovation.

Despite the increasing importance of knowledge as being a resource of strategic perspective, there is still lack of understanding on the appropriate method to implement KM (Garavelli et al., 2004; Hwang, 2003). Despite this, a growing number of studies have noted that KM could play a major role in increasing innovation (Rhodes et al., 2008), however, there are limited studies that theoretically and comprehensively investigate the relationship between KM and innovation comprehensively. Therefore, firms have focused on seeking various sources to obtain new knowledge to maintain sustained competitive advantages. Therefore, knowledge management has become an important issue in today's business management (Shenbagavalli, 2013). A review of related literature shows that knowledge and knowledge management are complex and multi-faceted concepts (Becerra-Fernandez and Leidner, 2008). Liao and Wu (2010) studied relationship among of knowledge management, organizational learning and innovation. The results indicated that organizational learning is the mediating variable between knowledge management and organizational innovation. In addition, they purported just like a system, knowledge management is an important input, and organizational learning is a key process, then organizational innovation is a critical output.

Yousif Al-Hakim and Hassan (2013) argued that knowledge management and organizational learning should "go hand in hand" in the organization to achieve superior performance. Past research showed the issues of knowledge management (KM) are complicated. Some researchers are related to the competitive advantages, and some of them are the e-business Lin and Lee(2005), or are related to organizational learning, and organizational innovation (Darroch, 2005; Davenport and Prusak, 1998). While, organizational learning is mixed with KM (García-Morales et al., 2006), and the relationship between knowledge management and organizational learning is not evident (Hu, 2010). Reviewing past literature, many scholars conducted the research to understand the relation among knowledge management, organizational learning, and organization innovation separately (Liao and Wu, 2010). The findings show that both variables organizational learning and innovation contribute positively to business performance, and that organizational learning affects innovation. As can be seen, the purpose of KM is to pursue innovation so that and organization maintains sustainable competitive advantages and to make and organization change and innovate through organizational learning. The previous studies have described the relation of knowledge management, organizational learning and organizational innovation. In this study, the knowledge-based theory is a suitable theory to support conceptual framework.

### **1.2 Knowledge Based Theory**

The objectives of knowledge-based view (KBV) are to make the enterprise act as intelligently as possible to secure its capability and overall success and to otherwise realize the best value of its knowledge assets (Grant, 1996). Particularly, knowledge is the most strategically important resource of the firm. Its proponents maintain that knowledge-based resources are usually difficult to imitate and socially complex, heterogeneous knowledge bases and capabilities among corporations are the main determinants of sustained competitive advantage and superior organizational performance. This knowledge is embedded and carried through multiple entities including organizational culture, policies, routines, documents, and employees (Candra, 2014). Relationship between (KBV) and organizational learning is important, because based on knowledge based-theory; knowledge resource constitutes a company's intangible assets. Organizations in the emerging knowledge economy will need to build strategic capability to create value based on the intangible assets of the firm. Organizational learning is a field of knowledge within organizational theory that studies models and theories about the way an organization learns and adapts (Vasenska, 2013). Therefore, organizational learning as an intangible asset and its effect on organizational innovation is perfectly consistent with the knowledge-based theory and the results of the relationship between organizational learning and organizational innovation can be interpreted with the theory.

Relationship between KBV and Organizational Innovation is vital for organization because the essence of knowledge management regarding innovation is that it delivers a framework for management in their endeavor to develop and improve their organizational capability to innovate. (Cohen and Levinthal, 1990) reflect this as absorptive capacity. It defines the ability of an organization to recognize the value of new information and knowledge, assimilate, and apply them, and this ability is critical in determining an innovative result. Interpretation of the results of the relationship between knowledge management and organizational innovation can be explained entirely by the knowledge-based theory. Because, according to this theory, if knowledge management as an intangible asset is implemented effectively in different levels of the organization leads to some unique capabilities and capacities which in turn lead to superior performance through innovation (Leal-Rodríguez et al., 2013).

### **1.3 Proposed Conceptual Framework and Hypotheses**

The purpose of the research is to examine the effect of knowledge management on organizational innovation directly and through mediating variable organizational learning. In this study, a research model was presented and empirically tested. The knowledge-based views of firm are exercised as the main theoretical framework to predict and to interpret the relationship between variables. Fig.1 illustrates a model that includes three constructs, namely, knowledge management, organizational learning, and organizational innovation.

#### **1.4 Knowledge Management**

After the field of knowledge management was introduced in the early 1900s, grounding its theoretical background in business and management science, the definition of knowledge management has been debated by practitioners and scholars. Knowledge management is difficult to define and measure because it is complex, multidimensional, and process-oriented (Gorelick and Tantawy-Monsou, 2005; Kumar and Thondikulam, 2006). Training and employee development programs, organizational policies, routines, procedures, reports, and manuals have served to manage precious knowledge for a long time (Alavi and Leidner, 2001). But the language used to define knowledge management is still unclear and definitions of knowledge management focused on the capacity to identify, acquire, store, distribute, and use explicitly documented knowledge (Büchel and Probst, 2000). The later definitions of knowledge management indicate a movement toward focusing on managing tacit knowledge, emphasizing knowledge sharing, and creating interpersonal inter-action (Choi and Lee, 2002; Hansen et al., 2000; Zack, 2002). Despite efforts to acquire knowledge from individuals, most knowledge remains in the human mind; even though it could be the most valuable and intangible asset held by the organization, it is difficult to share with others (Chou, 2005; Nonaka and Von Krogh, 2009). Examples of knowledge to be managed are best practices, training, customer relations management, business intelligence, document management, the use of taxonomies, data warehousing, and supply chain management (Boiney, 2011; Milam, 2005). It is important that the knowledge management system is available at the right time to the right persons who require the information, and be presented to them in a format that facilitates their use of the information (Rowland et al., 2004). In a simplistic sense, knowledge management has two functions: it is a source of knowledge and a facilitator for cultivating, development, and exploiting knowledge at both the development organizational levels (Apostolou and Mentzas, 1999; Milam, 2005).

According to Lawson (2003), strategies and process designated to identify, capture, structure, value, leverage, and share an organization's intellectual assets to enhance its performance and competitiveness.

Knowledge Management Process (KMP) is based on two critical activities; capturing and documentation of individual explicit and tacit knowledge, and its dissemination within the organization. According to Lawson, researchers combine various processes to form the knowledge management cycle. It included knowledge creation process, knowledge capture process, knowledge organization process, knowledge storage process, knowledge dissemination process, and knowledge application process.

#### **1.5 Organization Learning**

Organizational learning is an area of knowledge within organizational theory that studies models and theories about the way an organization learns and adapts (Vasenska, 2013). Organizational learning has been regarded as one of the strategic tools of achieving long-term organizational success (Argote, 2013; Easterby-Smith and Lyles, 2011; Liao and Wu, 2010). Organizational learning has been considered, from a strategic perspective, as a source of heterogeneity among organizations, as well as a basis for a possible competitive advantage (Vera and Crossan, 2004). It is critical in today's global competitive marketplace for an organization to maintain its position in a rapidly changing environment. According to Senge (1994), a learning organization is; where people continually expand their capacity to create the results, they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together. Senge (1994) also wrote that the precondition for a learning organization is that they need to replace individual thinking with systemic thinking, since learning always affects the whole system.

Organizational learning is a process related to the development of new knowledge (Huber, 1991), therefore, affects organizational innovation, since knowledge creation enhances the introduction of new products and services (Smith et al., 2005). Organizational learning is a process in which members of an organization detect errors or anomalies and correct it by restructuring organizational theory of action, embedding the results of their inquiry in organizational maps and images (Argirys and Schön, 1978). Organization learning included open-mindedness, shared vision, and commitment to learning. Due to the broad process of innovation, the learning has enabled the implementation of new idea, product and process, new management styles in communication and marketing, organizational structure and relations with clients (Camarero and Garrido, 2011). The impact of learning orientation is studied through three dimensions: commitment to learning, an open mindedness and a shared vision. Similarly, Phromket and Ussahawanitchakit (2009) has also found that organizational learning has positive effect on innovation outcome and export performance.

#### **1.6 Organization Innovation**

Innovation is the process to develop and improve products, processes and markets, with the aim to aggregate value. The definition is based on a distinction made by Schumpeter (1934) between an invention, an idea, and innovation as the generation of value out of an idea (Cooke, 2001; Marins, 2008). Innovation typically involves creativity, but is not identical to it: innovation involves acting on the creative ideas to make some specific and tangible difference in the domain in which the innovation occurs. Amabile et al (1996) define innovation as the successful implementation of creative ideas within an Tehran and suburbs subway organization. In this view, creativity by individuals and teams is a starting point for innovation; the first is necessary but not sufficient condition for the second. A further characterization of innovation is as an organizational or management process. Based on Davila et al (2012), Innovation like many business functions is a management process that requires specific tools, rules, and discipline. Through these varieties of viewpoints, creativity is typically seen as the basis for innovation, and innovation as the successful implementation of creative ideas within an organization (Amabile et al., 1996). From this point of view, creativity may be displayed by individuals, but innovation occurs in the organizational context only.

The firm's learning capabilities play a crucial role in generating innovations (Sinkula et al., 1997). Innovation implies the generation, acceptance, and implementation of new ideas, processes, products, or services. Organizational innovation is defined as the application of ideas that are new to the firm, whether the newness is embodied in products, processes, and management or marketing systems (Weerawardena et al., 2006). It is obvious that an organizational learning is closely related to organizational innovation.

It is essential to understand the types of innovation and their features because a specific type of innovation requires unique and sophisticated responses from an organization (Hurmelinna- Laukkanen et al., 2008). Although, previous innovation studies suggested several innovations typologies, the most prominent type of innovation comprises the following categories; technological versus administrative innovation, incremental versus radical innovation, and product versus process innovation (Cooper, 1998).

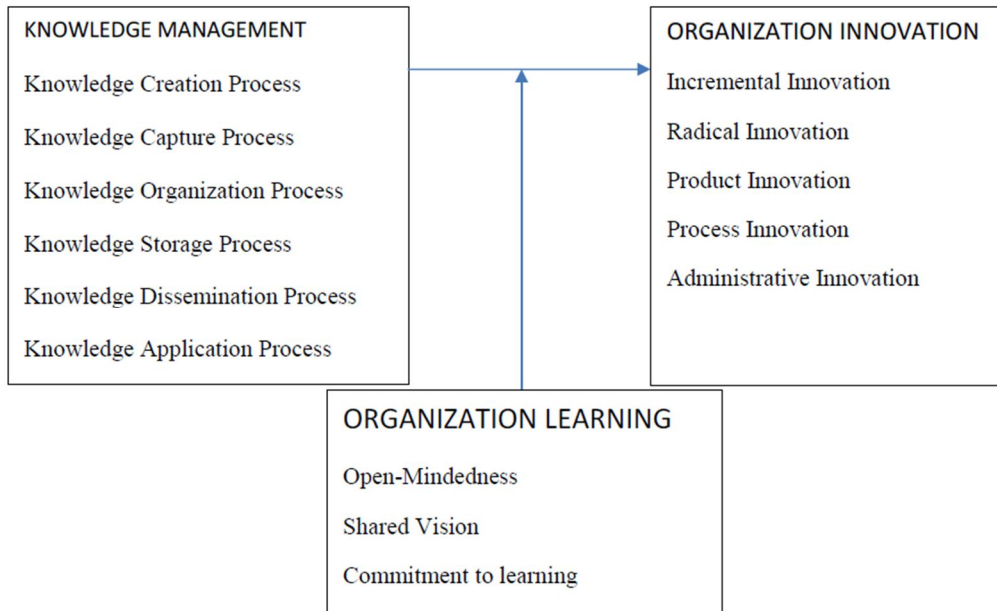


Figure 1. Proposed conceptual framework

According to the proposed conceptual framework, three proposed hypotheses will be employed in this part.

- H1: There is a positive relationship between knowledge management and organizational innovation.
- H2: There is a positive relationship between knowledge management and organizational Learning
- H3: There is a positive relationship between organizational learning and organizational innovation

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## 2. Materials and methods

The hypotheses of this paper have been developed with the help of supporting theory. In this study, choosing a survey with questionnaire will allow hypothesis testing and generalizing the results. The questionnaire has been developed on the basis of literature review and previous empirical evidences. Thus, a survey by questionnaire will be conducted to provide sufficient evidence for the basic relationship of the study and potential moderating factors. This study can be classified as a cross-sectional study, since it measures the relationship between knowledge management and organizational learning and Tehran and suburbs subway organizational innovation within a specific period of time.

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## 3. Discussion and results

This research examines the relationships between knowledge management, organizational learning and organizational innovation. Our findings reveal that knowledge management exerts a complete mediating effect on organizational innovation through organization learning. On the other hand, organization members with great experience knowledge management will enhance the performance of the organization on commitment to learning, shared vision and open-mindedness Based on this article, it is clear that knowledge.

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## 4. Conclusion

Management plays a significant role in innovation. It is important for both innovation and knowledge management professionals to understand the systemic relationship between these concepts and the value that it can generate in respect of creating and maintaining sustainable competitive advantage for Tehran and suburbs subway organizations.

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