

The Impact of Organizational Learning on Innovativeness (An Empirical Study on the Education Sector in Damascus City)

Mouaz Alsabbagh

(Corresponding Author)

Dept. of Human Resource Management, Higher Institute of Business Administration
Damascus, Syria
Email: muaaz1985@hotmail.com

Abdul Hamid AL Khalil

Dept. of Human Resource Management, Higher Institute of Business Administration
Damascus, Syria
Email: abdulhamidkhalil@yahoo.com

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Abstract

Innovation has been recognized as the primary strategy to attain competitive sustainable advantage. The current dynamic environment has impelled organizations to adopt a new business model based on creativity and innovation. Although the researchers realized the significance of innovation, organizations have to focus on organizational learning to enhance their innovativeness. The present study attempts to study the effect of organizational learning on innovativeness in the public and private universities in Damascus. The sample consisted of 383 workers at the universities' Administrative and Academic system and two scales were used in this study; (Jerez-Gomez et al, 2005) scale to measure the Organizational Learning and (Gadot, Ruvio, and Schwabsky ,2012) scale to measure the Innovativeness. The study found significant impact of all Organizational Learning dimensions on Innovativeness. The results of regression analysis also showed that four elements of organizational learning explained the changes in the Innovativeness.

Keywords: organizational learning, innovativeness, Higher Education, Damascus

1. Introduction

The rapid changes firms have to face today means their knowledge becomes obsolete and do away with their existing competences. In this context, firms need to be able to continuously renew their knowledge. The literature has highlighted the role of organizational learning in that renewal (Sinkula, 2002). One of the reasons why learning is considered to be critical for company success is that it facilitates the development of new products and processes (Baker and Sinkula, 2002). Organizational learning and its output, knowledge, are frequently cited as

antecedents of innovation (Kogut and Zander, 1992; Leonard-Barton, 1995; Nonaka and Takeuchi, 1995; Carneiro, 2000; Darroch and McNaughton, 2002; Crossan and Apaydin, 2010). The basic assumption here is that companies which are able to renew their knowledge stand a better chance of understanding the consequences of the changes in their environments and are better suited than competitors to respond faster and better to them (Sinkula, 1994; Slater and Narver, 1995; Tippins and Sohi, 2003). Given the relation between organizational learning and innovation and the recognition that innovation is important as a source of competitive advantage (Stata, 1989; Dodgson, 1993; Garvin, 1993; Brockmand and Morgan, 2003). "In fact, considering the increasing rate of changes and scientific, technologic, social, and cultural variations, only the organizations which, in addition to arrangement with today society's variations, can predict the direction of change and variation in future and are able to arrange these positive variations in order to make a better future, are considered as successful and efficient" (Akhawan, Abu Ali, 2010). To avoid the death and stability and adapt to the outside instable and variable environment, organizations require the variation and innovation. The slogan "Ruin is waiting for you, unless you'll be innovative," is ahead of the managers of organizations.

Today's problems cannot be resolved with yesterday's solutions, and environmental conditions are so complicated, dynamic, and uncertain that without innovations, organization can't any more guarantee their long life. The most important tool that can help the organizations with this is the learning factor; because, it not only gets you prepared for change leadership, but also may be the only competitive advantage for the survival and development of organizations. In fact, it can be said that not such a long time ago were the organizations acting under a constant and stable environment and it was nearly possible for them to predict the future events, so that managers could manage and organize an organization with certain conditions. But little by little, kinds of variations in science and technology, economy, culture, and politics influenced quickly on the organization. Organizational leaders found out that they should consider "learning" as a valuable phenomenon and, to succeed in realizing a better future, they should train the kind of organization which is constantly and effectively looking for learning and don't act impressionable against the challenges, so that it manages to survive (Gohe, 2003).

In fact, the increasing rate of development and innovation in all scientific and technical fields and their effect on all the organizational processes as well as the dominance of competitive conditions over the varied environment of business has changed the learning process in an organization into the most fundamental factor in preserving the organizations' competitive advantage in the present century, so that a lack of attention to the learning process in organizations and ignoring its advantages will cause a dark future full of challenges. Today, it can be said that creating a learning environment and increasing the competence and capability of human resources are the prerequisites for forming any organization, each member of which is looking for information about the need for change. This information leads to satisfying the needs and using the learned knowledge, in practice, for adapting a person and organization to the created changes in outside environment; because, learning enables the organizations to react more quickly and effectively to the dynamic and complex environment. The innovation performance in small and medium firms has caught many attentions. It sounds like one of the

differences among the organizations in utilizing the advantages taken of innovation is related to the organizational learning culture and ability. As knowledge and technology and business fields like virtual and under-network organizations developed, the economic entities grew, the business environment changed into a competitive and challenged one, and new paradigms emerged, so that the survival has become a serious problem for many entities. In such an environment, it's usual for the competitive advantages to change. It's said that learning in the new business paradigms is the most important competitive advantage (Ahmadi&Pishdar, 2010). To date the relationship between organizational learning, and innovation have scarcely been examined together in the literature, particularly from an empirical perspective. There is some evidence that organizational learning is associated to innovation (Forrester, 2000; Darroch and McNaughton, 2002; Jang et al., 2002; Scarbrough, 2003). The lack of research on these issues is even more evident in the Syrian context. Thus, studying the relationship between those two variables in Syrian universities would be the contribution to the literature on how to foster innovation in this context. The purpose of this paper is to fill this gap. First, it reviews the literature on the relationship between organizational learning and innovation. Then this study empirically examines the relationship using a sample of of 383 workers at the universities' Administrative and Academic system.

The Concepts of the study

1.1.1 Organizational Learning Factors:

In the present changing world, learning is considered as the only sustainable competitive advantage (DeGeus 1988), and the organizations that learn better than other competitors are more successful. Therefore, organizational learning and learning organization have recently been taken into serious consideration as new organizational paradigms. The challenges faced by higher educational institutes in the recent decades such as reduction of employment rate of university graduates, increase in student enrollments, demand for more effective role of universities (Patterson 1999), globalization followed by increasing competition and market-orientation activities (Bowden and Matron 1998; Sporn 2003) have caused decision makers and professors to adopt changes in the methods and tools employed in educational institutes.

Miller (1996) defined OL as acquisition of new knowledge by employees who are able and willing to apply that knowledge in making decisions or influencing others in the organization. Sanchez (2005) defined that organization learning can be said to occur when there is a change in the content, conditionality, or degree of the belief shared by individuals who jointly act on those beliefs within an organization. Jerez-Gómez et al. (2005) defined OL as the activities which organizations do in transformation of learning capability including individuals and competitors. It is considered to be of four dimensions management commitment, system perspective, openness and experimentation and knowledge transfer and integration. Facing the current uncertain environment, business must keep learning to maintain its competitiveness. According to Garratt (1990), the organizational learning is the application of organizational development and learning, therefore, it is necessary for the organization to develop it's personal and group learning abilities. Moreover, OL is considered as a dynamic process based

on knowledge, implying moving along the different levels of action, from the individual to the group levels, and then to the organizational level and back again (Huber, 1991).

Khanderkar and Sharma (2005) found that work-based learning strategies involving people can help in developing strategic capabilities for sustainable competitive advantage. Sanchez (2005) introduced a general model of OL—the five learning cycles model- to represent how individuals, groups and the overall organization are linked in an OL process.

Prior studies (Goh and Richards, 1997; Hult and Ferrell, 1997, Jerez-Goómez et al., 2005) proposed differences dimensions to measure organization learning capability in the firm. Organization learning can be measured in terms of top management towards learning, a shared vision, open-mindedness towards change and intra-organizational sharing of knowledge (Sinkula et al., 1997). Hult and Ferrell (1997) suggested four variables to measure organizational learning including: team orientation, systems orientation, learning orientation, and memory orientation. More recently, Jerez-Gomez et al. (2005) established a measurement scale of organizational learning namely managerial commitment, systems perspective, openness and experimentation, and knowledge transfer and integration that supported by the results of validation study covering a sample of 111 Spanish firms from chemical industry. Chiva et al. (2010) develops a five dimensional model for measuring organizational learning capability including: experiment, ability to take risk, interaction with environment, dialogue and participatory decision making. This paper uses Jerez-Gomez et al.'s measurement scale as dimensions to measure organization learning capability in Damascus Universities. The Jerez Gomez et al.'s measurement scale was tested and adopted in subsequent studies and found to be valid and reliable (Panayides, 2007, Liao and Wu, 2009). Jerez-Gomez et al.'s measurement scale aims to determine the organizational propensity to learn or determine the organizational learning capability. This model is based on four dimensions of organizational learning as follows;

- **Management Commitment.**

First dimension is managerial commitment that refers to the production of knowledge and organizational culture as an underlying activity, Because of the key to gain long-term outcomes in organization is organizational learning. Management should ensure that the concept is understood by staff and providing the basis for removal beliefs that are destructive to provide organizational learning (García-Morales, Lloréns-Montes, & Verdú-Jover, 2007). So Management Commitment is to recognize the relevance of learning and to develop a culture that promotes the acquisition, creation and transfer of knowledge as fundamental values (Emden et al., 2005).

- **System Perspective.**

Second dimension refers to have a clear system perspective for all staff toward organizational objectives which are expressed as the key to the development of organizational goals. The organization should be considered as a system composed of different sectors to work collaboratively together. Organizational attitude as a system implicitly caused to identify the communication in organization that leads to development of a shared mental model, Because

of organizational learning uses knowledge, understanding and common principles (García-Morales et al., 2007). Usually, new ideas in intra-organizational and extra-organizational are given in the open environment. This dimension is necessary aspect for creative learning. So System Perspective entails bringing the organization's members together around a common identity (Emden et al., 2005).

- **Openness and Experimentation.**

The ability of creativity, learning from the mistakes of others and support of controlled risks are enhanced by creating experimenting culture that refers to the importance of third dimension of organizational learning that is openness and experimentation (Nikbakht, Siadat, Hoveida, & Moghadam, 2010). Openness and Experimentation is a climate that welcomes the arrival of new ideas and point of view, both internal and external, allowing individual knowledge to be constantly renewed, widened and improved (Emden et al., 2005).

- **Knowledge Transfer and Integration.**

Fourth and the last and most important aspect are the knowledge transfer and integration. Knowledge management is the process of creating, recording, refining, distribution and use of knowledge. These five factors of knowledge management in an organization provide the basis for training, re-training and feedback (Nasr Esfehiani, 2007). Knowledge Transfer and Integration refers to two closely linked processes, which occur simultaneously, rather than successively internal transfer and integration of knowledge (Emden et al., 2005).

1.1.2 Innovativeness:

Innovativeness implies an intention to go beyond old habits and try untested or new idea to create competitive advantage (Menguc & Auh, 2006). The uncertainty and instability of current market has impelled the firms to innovate in order to maintain or increase their competitiveness. The capacity to innovate is one of the important factors that impact business performance (Hurley & Hult, 1998). Innovativeness provides flexibility to choose different options to satisfy their customers in order to sustain competitive advantage (Calantone, Cavusgil, & Zhao, 2002). Ozcelik and Taymaz (2004), in a study of Turkish firms, found that innovations are crucial for the international competitiveness. Firms may go for process, technology, product, and market innovations in order to create new opportunities (Wiklund & Shepherd, 2005), which require innovative capability (Tidd, Bessant, & Pavitt, 1997). Moreover, innovative firms can better facilitate entry into new arenas as well as to renew their position in current situation (Cho & Pucik, 2005). Thus, innovativeness becomes an essential tool for firms' long-term success and survival (Deshpande, Farley, & Webster, 1993). Innovation is a "multi-stage process whereby organizations transform ideas into new/improved products, services, or processes to advance, compete and differentiate themselves successfully in their marketplace" (Baregheg, Rowely, & Sambrook 2009).

In order to enhance innovativeness, firms should develop high level of creativity (Cohen & Levinthal, 1990) among its employees, which would facilitate the generation of novel and appropriate ideas, products, processes, or solutions (Shalley, 1995). Creativity is also necessary

to resolve problems related to knowledge generation and absorption. The management of the flow of technological information is an important part of an organization's innovative capacity (Cohen & Levinthal, 1990) and leads to effective generation of ideas. Moreover, if firms wish to remain innovative, they should pay special attention to strategy, quality of ideas, technology acquisition and exploitation (Koc & Ceylon, 2007). Firms should also understand the importance of interactions between the different knowledge possessed by the firm, their technologies, and their organizational learning process (Guadamillas, Donate, & de Pablo, 2008).

Today, the innovation has caught the attention of many scientists and researchers from different majors and it is of great importance in the modern and varied organizations which are completely prepared for competition to the rival organizations and maintaining their position in this variation cycle. Because, the innovation is regarded as a critical factor in organizations to create values and stable competitive advantages in the today's complicated and variable environment. The organizations with greater innovations will act successfully in response to the variable environments and in the creation and development of new capabilities which let them get a better performance (Bromand & Ranjbar, 2009). In the world today, the ability of change administration and adaption is considered as the main factor in the success and survival of every organization and the acquisition of these abilities require requires the organizations to care about the people's creativity and innovation. Successful organizations are those in which the innovation is regarded as their first policy (Saki & Shakiba, 2013). In other words today, in order to survive, the organizations must be dynamic and their managers and staff should be creative and innovative people, so that they can adapt the organization to these variations and be responsible for the society needs. In fact, it can be said that in the system of world economy and current increasing competition, the creativity and innovation are the key elements in the survival and success of an organization (SamadAghei, 2007).

2. Literature Review

The underlying assumption about the relationship between the organizational learning and organizational innovation is that the firms and organizations which are able to refresh their knowledge, are more likely to understand the consequences created by the environmental changes and respond more quickly and appropriately to these changes than their rivals (Tippins&Sohi, 2003). Briefly, the organizational learning can increase the organizational innovation by the knowledge development, acquisition, transfer, and application. In other words, empirical studies consider the organizational learning as one of the organizational innovation antecedents (Darroch & McNaughton, 2002). Under the same organizational conditions, OL will enhance Innovativeness organization's capability in the future (Argyris and Schon 1978). Individual learning and OL will lead to INNOVATIVENESS. Therefore, a universities' learning capabilities play a crucial role in generating innovation (Sinkula, Baker and Noordewier 1997). Lin (2003) argues that OL may have direct influence on administrative innovation. Weerawardena, O'Cass and Julian (2006) examine the role of industry structure and

OL in innovation and brand performance, showing that OL in different industry structures can positively impact Innovativeness. We conclude that OL may affect Innovativeness.

The literature on organizational learning (OL) has grown exponentially in recent years (Fiol and Lyles, 1985; Senge, 1990; Huber, 1991; Dodgson, 1993; Nonaka and Takeuchi, 1995; Slater and Narver, 1995; Crossan et al., 1999). In general, it is considered as the process of developing new knowledge and insights derived from the common experiences of people within the organization and it has the potential to influence behaviors and improve a firm's capabilities (Fiol and Lyles, 1985; Senge, 1990; Huber, 1991; Slater and Narver, 1995). Jerez-Gómez et al. (2005) defined OL as the activities which organizations do in transformation of learning capability including individuals and competitors. It is considered to be of four dimensions management commitment, system perspective, openness and experimentation and knowledge transfer and integration.

The result of this process will be the development of organizational knowledge, which will be reflected in theories in use, shared mental models, information databases, formalized procedures and routines, and formal cultural models that guide behavior (Slater and Narver, 1995). A number of studies have been published relating OL and innovation (Stata, 1989; Cohen and Levinthal, 1990; Nonaka, 1991; Kogut and Zander, 1992; Leonard-Barton, 1995; Nonaka et al., 1995; Hage, 1999). Some of them suggest that this is the main process by which technical innovation occurs (Stata, 1989; McKee, 1992; Fichman and Kemerer, 1997). According to the literature, innovation requires that individuals acquire existing knowledge and that they share this knowledge within the organization. The acquisition of knowledge depends upon the organization's knowledge base (Salavou et al., 2003) as well as on the acquisition of external information and knowledge (Chang and Cho, 2008). The acquisition of knowledge from outside the company depends on the capacity of the firm to absorb new ideas, that is, the firm's ability to understand, assimilate and apply the new external knowledge to commercial ends (Cohen and Levinthal, 1990). Organizational learning enhances the assimilative capacity of the firm.

Innovation also needs the transformation and exploitation of existing knowledge. That requires that employees share information and knowledge. As Nonaka (1994) suggests, innovation occurs when employees share their knowledge with the organization and when this shared knowledge generates new and common insights. In short, organizational learning allows the development, acquisition, transformation and exploitation of new knowledge that enhances innovation. Although the link between OL and innovation has been conceptually supported in the literature and some empirical studies have reported aspects of OL as antecedents of innovation, the literature does not provide enough empirical evidence to link the process of OL to innovation (Darroch and McNaughton, 2002). In addition, conclusions of previous studies are difficult to generalize because of the differences among them regarding their main purpose, samples, methodologies and the measures they use. There are some case studies showing that the OL process enhances product innovation (Forrester, 2000) and process innovation (e.g. Jang *et al.*, 2002; Scarbrough, 2003). Some quantitative studies have also provided evidence that product innovation is positively related to the OL process as a whole (Darroch, 2005), or to the organizational learning capability of the firm (Alegre and Chiva, 2008). Regarding process innovation, Murat and Baki (2011) find that organizational learning capability has a significant

and positive impact on process innovation. Finally, there are some studies focusing on one phase of the organizational learning process and its effect on product or process innovation. For instance, Yli-Renko et al. (2001) find a positive relationship between knowledge acquisition and product innovation. Weerawardena et al. (2006) show that three types of learning influence innovation intensity. Lastly, Chang and Cho (2008) find that memory sharing, the use of external information and the utilization of formal procedures for retaining knowledge enhance innovation. Although the above-mentioned studies focus on different aspects of the relationship between organizational learning and innovation, most find a positive relationship between them. According to Hurley, Tomas and Hult (1998), higher levels of innovativeness in the firms are associated with greater capacity for innovation to develop competitive advantage. Innovativeness is part of OL, which is the antecedent to innovation.

In the above sections, authors have proposed that OL encourages innovation. Taking into account the results of literature review, H1 is proposed:

H1. organizational learning will affect Innovativeness. In particular:

H1a. managerial commitment will have a positive effect on Innovativeness.

H1b. systems perspective will have a positive effect on Innovativeness.

H1c. openness and experimentation will have a positive effect on Innovativeness.

H1d. knowledge transfer and integration will have a positive effect on Innovativeness.

3. Conceptual Framework

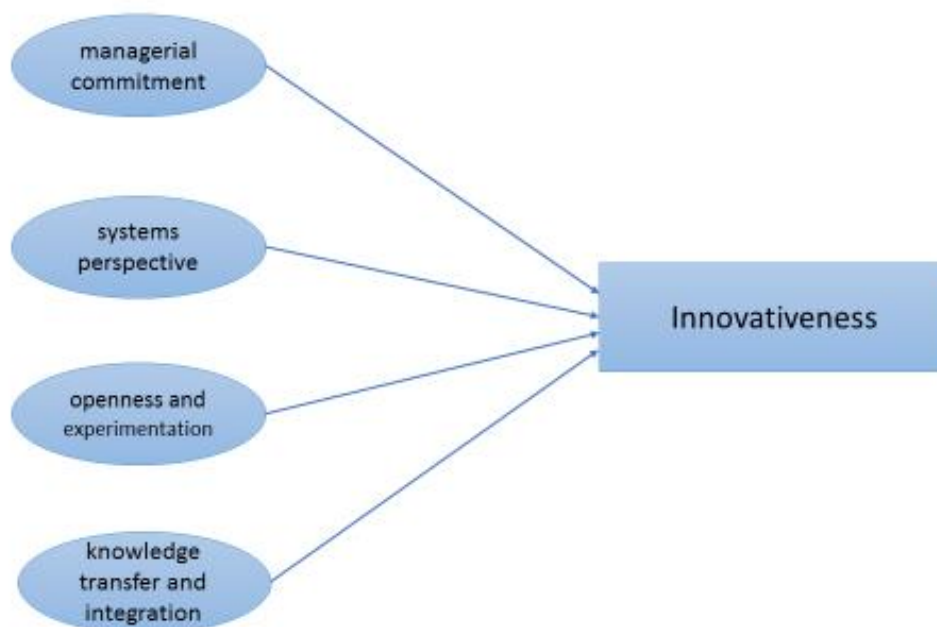


Figure 1

Hypothesized model of the Effect of Independent Variables on Dependent Variable.

4. Research Method

4.1 Sample

Data for the study of the impact of Organizational learning on Innovativeness ratings were collected from 383 employees in public and private universities in Damascus city. The response rate was 85%. Of the respondents, 55.1% were Female and 44.9% were Male. In addition, 29.8% of the respondents were younger than 30 years, 42.6% were between 30 and 45 years, 27.7% were older than 45 years. Also, 29.2% had worked in the universities for less than 5 years, 21.1% between 5 and 10 years of Experience, 15.1% had worked in the universities between 10 and 15 years of Experience and 34.5% had worked More than 15 years. The demographic data of the sample used in analysis is shown in Table 1.

4.2 Measures

The main aim of the study is to investigate the impact of Organizational learning on Innovativeness at Damascus public and private universities. Therefore, the study adopts the quantitative research paradigm which has the power to predict causal relationships (Mack et al., 2005), and to statistically generalize findings to the whole population (Sarantakos, 2004). The independent variable in this study is organizational learning. This variable was measured using a scale developed by Jerez-Gomez et al. (2005) containing 16 items in four dimensions: managerial commitment, system perspective, openness and experimentation, knowledge

transfer and integration. The scale of the frequency of occurrence ranges from 1= not at all, to 5= frequently.

On the other hand, the dependent variable in this study is Innovativeness. This variable was measured using a scale developed by (Gadot, Ruvio, and Schwabsky ,2012) containing 21 items five dimensions: creativity, openness to change, future orientation, risk taking, and proactiveness.. The scale of the frequency of occurrence ranges from 1= not at all, to 5= frequently.

Demographics	n		%	
	Public Universities	Private Universities	Public Universities	Private Universities
Gender				
Male	106	66	61.6%	38.4%
Female	141	70	66.8%	33.2%
Age				
30 and less	53	61	46.5%	53.5%
31-45	114	49	69.9%	30.1%
45 and more	80	24	76.9%	23.1%
Education				
Secondary and less	53	27	66.3%	33.8%
Bachelor	53	64	45.3%	54.7%
Master degree	63	23	73.3%	26.7%
Ph.D. degree	78	22	78%	22%
Years of working				
5 and less	58	54	51.8%	48.2%
6-10	49	32	60.5%	39.5%
11-15	38	20	65.5%	34.5%
16 and more	102	30	77.3%	22.7%
Nature of work				
Academic	101	14	87.8%	12.2%
Administrative	109	92	54.2%	45.8%
Academic & Administrative	37	30	55.2%	44.8%

Table 1.
Demographic data

The questionnaire was translated into Arabic, and then peer reviewed by four Damascus academics to test whether the item statements were understandable and not ambiguous. To verify reliability, the questionnaire was pre-tested (Creswell, 2012) on 21 members of different managerial & academic staff at public and private universities on the basis of simple random sample. The data were coded and entered into SPSS 23 for the purpose of analysis. Blank answers were not included in the calculation. All of the scales' dimensions had a score of Cronbach's α that is > 0.6 . Accordingly, the questionnaire was then ready for final distribution. To be able to investigate the differences between public and private sectors, stratified random sampling, which has the power to develop separate conclusions about each stratum (sector) and to study the differences between them (Sekaran, 2006; Moore and Notz, 2009), was employed in the study.

5- Study Results

Responding to the study Hypothesis number 1, which investigates the impact of organizational learning on Innovativeness, multiple regression analyses were conducted. The study model results are shown in Figure 3.

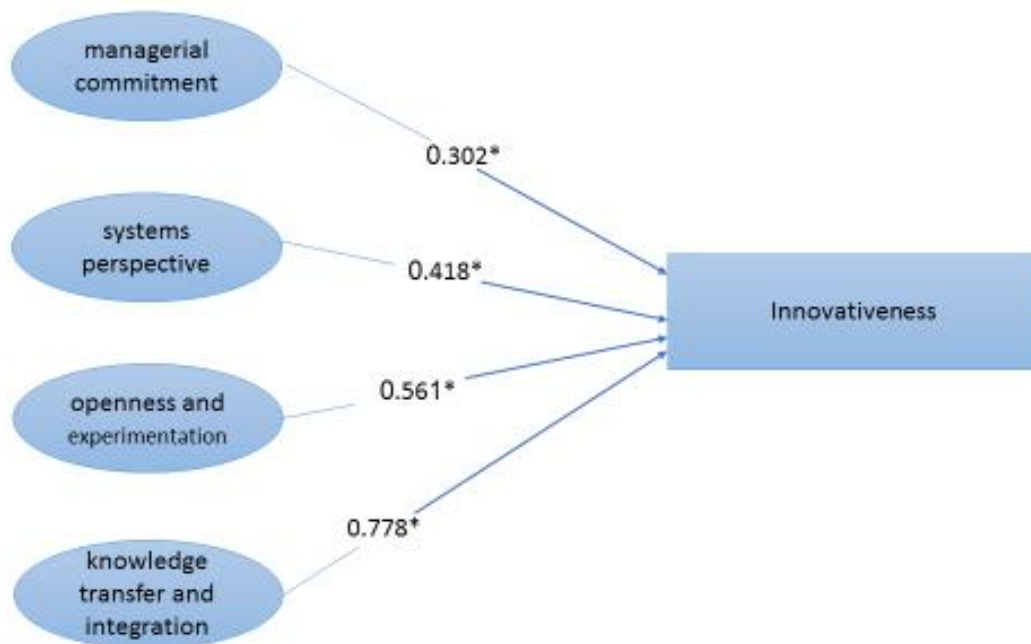


Figure 3
The study model results

The results showed a positive significant impact of managerial commitment on Innovativeness ($p\text{-value} = 0.00 < 0.05$), with a β weight of 0.302, so Hypothesis 1a is fully supported. The results showed also a positive significant impact of systems perspective on Innovativeness ($p\text{-value} = 0.00 < 0.05$), with a β weight of 0.418, so Hypothesis 1b is fully supported.

Regarding openness and experimentation, the results showed a positive significant impact on Innovativeness ($p\text{-value} = 0.00 < 0.05$), with a β weight of 0.561, so Hypothesis 1c is fully supported. Finally, the results showed also a positive significant impact of knowledge transfer and integration on Innovativeness ($p\text{-value} = 0.00 < 0.05$), with a β weight of 0.778, so Hypothesis 1d is fully supported.

Organizational Learning	Dimension	Probability	β
	Managerial Commitment	0.00*	0.302*
	Systems Perspective	0.00*	0.418*
	Openness and Experimentation	0.00*	0.561*
	Knowledge Transfer and Integration	0.00*	0.778*

Note: *Significant at 0.05

Table 2.
The impact of Organizational Learning on Innovativeness

The results showed that Knowledge Transfer and Integration has the most significant impact on Innovativeness which means that

6. Discussions / Conclusions

The innovation performance in small and medium firms has been regarded by many of researchers. It seems that one of the differences available between the organizations in utilizing the advantages taken of the innovation lies in the power and culture of organizational learning. With science and technology development and expanding the business areas, the economic entities have spread out, the business environment has become a competitive and environment full of challenges, and new paradigms have emerged, so that the survival is difficult for many entities and firms. It is in such a natural environment that competitive advantages change (Saki & Shakiba, 2013). Learning is expressed as the biggest competitive advantage in the new business paradigm (Ahmadi & Pishdari, 2010). In fact, the increasing rate of growth and innovation in all the fields of science and technology and their impact on all the organizational processes, and the domination of competitive conditions over the changing business environment, has changed the learning process in an organization into the most critical factor in maintaining the competitive advantage of the organization in present century,

so that not caring about the learning process in organizations and ignoring its advantages will make them face numerous challenges and an uncertain future. Today, we can say that creating a learning environment and enhancing the competence and capability of human resources are needed to create an organization each member of which is looking for information about need for change. This information leads to satisfying the needs and using the learned knowledge, in practice, for according a person and organization with the created changes in outside environment; because learning enables the organizations to react more quickly and effectively to the dynamic and complex environment.

Based on the research framework and empirical analyses, this study facilitates a better understanding of the causal relationships between OL and Innovativeness. This study thus has value as a reference for public and private universities in Damascus city for their implementation OL and development of Innovativeness. Given the importance of organizational learning in increasing the Innovativeness in an organization, this study examines the impact of organizational learning in Innovativeness in the public and private universities in Damascus. The results showed that there is an impact of all organizational learning elements in Innovativeness. Where Knowledge Transfer and Integration has the most significant impact, then Openness and Experimentation, Systems Perspective & Managerial Commitment accordingly. These results are consistent with the findings of Aragon-Correa, et al (2007), Carneiro (2000), (Darroch & McNaughton (2000), Crossan & Apaydin (2010), Tsai (2006), and Yu Yuan, et al (2010).

One of the reasons why learning is critical for an organization success is that it facilitates the improvement and development of new processes and products (Baker & Sinkula, 2002). The organizational learning and its outcome, knowledge, are often regarded as the antecedents of the innovation (Carneiro, 2000; Darroch & McNaughton, 2000; and Crossan & Apaydin, 2010). The underlying assumption in the organizational learning and Innovativeness is that the firms and organizations which are able to refresh their knowledge, are more likely to understand the consequences of environmental changes and respond more appropriately and quickly to these changes than their rivals (Tippins & Sohi, 2003). In short, the organizational learning enhances the Innovativeness through the acquisition, transfer, and application of knowledge.

According to the findings, the Knowledge Transfer and Integration results in strengthening the learning culture in the organization. Due to an organization orientation to the knowledge creation, this culture has provided more opportunities for learning in the organization, and besides the knowledge development in people and their contribution to each other's knowledge, on one hand, and enhancing the capability of applying ideas, processes, or new products, on the other hand, enhances the innovation capacity in the firms. Therefore, the Knowledge Transfer and Integration is able to raise their innovation capability and have more innovation capacity than their rivals, because of having knowledge and ability to understand and anticipate the customers' needs, commitment to the innovation, learning atmosphere, and embracing new ideas in the organization (Matofi & Ahmadyan, 2010).

More results indicated that there is a positive and significant relationship between rest organizational learning dimensions (Openness and Experimentation, Systems Perspective & Managerial Commitment) and the Innovativeness. These results are consistent with the findings of Darroch & McNaughton (2002) and Tippins & Sohi (2003). In terms of the organizational

learning and its dimensions, the management literature emphasizes its key role as the organizational learning preconditions (Carneiro, 2000). Several models have been proposed to explain the relationship between these two variables (Levin & Liunthal, 1990; Head Load, 1994; Kogut & Zender, 1992; Leonard Barton Sniser, 1998; March, 1991; and Noanko & Ta Ki Chi, 1995). In general, it can be said that the innovation requires individuals to acquire knowledge and then, share it within the organization (Jimenez Jimenez, 2008). This literature not only reflects the positive impact of organizational learning on the performance, but also argues that this relationship is mediated by the innovation. In particular, some papers show that the organizational learning allows firms to develop their abilities (Baversad, et al, 2009).

Weisberg (2006) believes that the Innovativeness requires the application and combination of knowledge from various sectors. The knowledge which is shared with and transferred to others is used to facilitate and establish the innovation. Applying the knowledge in an organization, the organizations improve the existing products and generate new products which meet the customers' needs and desires. The more organizations take advantage of the existing knowledge in offering their products and services, the more they can explore the ideas which are known as opportunities (Hemati, et al, 2010).

More results indicated that there is a positive and significant relationship between the learning and Innovativeness. In fact, we can say that the organizational learning results in inducing knowledge or a new idea and increasing the ability of understanding and applying them. The organizational learning can result in an organization progress when the organization determines its mission, customers, capacities, and strategies. This kind of learning will lead to the underlying innovation in the new products, services, and organizational processes (Saki & Shakiba, 2013). The results of stepwise regression analysis for the prediction of the Innovativeness through the organizational learning elements indicated that the elements " Knowledge Transfer and Integration, Openness and Experimentation and Systems Perspective " are considered as the most important predictive ones for the Innovativeness and play a considerable role in predicting it.

The Innovativeness also includes the transformation and use of the available knowledge which requires employees to share their knowledge and information. As Noanko states that the innovation occurs when employees share their knowledge within the organization and when this knowledge was shared, it invents common and new visions in a diverging and converging process (Leonard Barton Sniser, 1998) and new key capabilities (Kugot & Zender, 1992; Leonard Barton, 1995) which enhances the innovation in an organization (Jimenez Jimenez, 2008). In fact, we can say that the knowledge sharing and conversion indicates a new combination of knowledge which can lead to the opportunity exploration and Innovativeness (Jiang & Yuan, 2009). The Innovativeness development and education stems from the organizational leadership which believes in the Innovativeness for survival of the organization. The organization's senior managers who have an effective leadership style can create a supporting and training environment for the innovation and act as a model in inspiring and motivating the employees to create innovative ideas (Saki & Shakiba, 2013).

References

- Alavi, M., and Leidner, D.E. (2001), 'Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues,' *MIS Quarterly*, 25 (1), 107–136.
- Alegre, J. and Chiva, R. (2008), "Assessing the impact of organizational learning capability on product innovation performance: an empirical test", *Tecnovation*, 28 (6), 315-26.
- Argote, L., Beckman, S. and Epple, D. (2003), "The persistence and transfer of learning in industrial settings", *Management Science*, 36 (2), 140-54.
- Argyris, C., and Schon, D.A. (1978), *Organizational Learning II: Theory, Method, and Practice*, New York, MA: Addison-Wesley.
- Baker, W. and Sinkula, J. (2002), "Market orientation, learning orientation and product innovation: delving into the organization's black box", *Journal of Market-Focused Management*, 5 (1), 5-23.
- Bates, R., and Khasawneh, S. (2005), 'Organizational Learning Culture, Learning Transfer Climate and Perceived Innovation in Jordanian Organizations,' *International Journal of Training and Development*, 9 (2), 96–109.
- Baversad, B., Delawaripour, J., & Tavanbakhsh, H. (2010). The relationship between innovation, organizational learning and organizational performance. Presentation at the 1st Annual Conference of Management, Innovation, Entrepreneurship, Shiraz, Iran.
- Brian, D.J., and Pattarawan, P. (2003), 'Understanding the Antecedents of Effective Knowledge Management: The Importance of a Knowledge-Centred Culture,' *Decision Sciences*, 34 (2), 351–384.
- Brockmand, B. and Morgan, F. (2003), "The role of existing knowledge in new product innovativeness and performance", *Decision Sciences*, 32 (2), 385-419.
- Carneiro, A. (2000), "How does knowledge management influence innovation and competitiveness?", *Journal of Knowledge Management*, 4(2), 87-98.
- Chang, D.R. and Cho, H. (2008), "Organizational memory influences new product success", *Journal of Business Research*, 61(1), 13-23.

Chang, S.C., and Lee, M.S. (2007), 'The Effects of Organizational Culture and Knowledge Management Mechanisms on Organizational Innovation: An Empirical Study in Taiwan,' *The Business Review*, 7, 1, 295–301.

Chin-Loy, C. (2003), "Assessing the influence of organizational culture on knowledge management success", Doctoral dissertation. Nova Southeastern University, Davie, FL.

Chu, YC (2007). *Human Resource Management* (First edition). Taipei city: Wu-Nan Culture.

Cohen, W. and Levinthal, D. (1990), "Absorptive capacity: a new perspective on learning and innovation", *Administrative Science Quarterly*, 36 (1), 128-52.

Crossan, M. and Apaydin, M. (2010), "A multidimensional framework of organizational innovation: a systematic review of the literature", *Journal of Management Studies*, 47 (6), 1154-91.

Crossan, M., Lane, H. and White, R.E. (1999), "An organizational learning framework: from intuition to institutions", *Academy of Management Review*, 24 (3), 522-37.

Czerniewicz, L., and Brown, C. (2009), 'A Study of the Relationship Between Institutional Policy, Organisational Culture and E-Learning Use in Four South African Universities,' *Computers & Education*, 53 (1), 121–131.

Daft RL (2001). *Organization theory and design* (7th ed.). Cincinnati, Ohio: South-Western College Publishing.

Daft, J. (2001), 'The Acquisition, Transfer and Depreciation of Knowledge in Service Organizations: Productivity in Franchises,' *Management Science*, 41 (10), 1750–1762.

Darroch, J. (2005), "Knowledge management, innovation and firm performance", *Journal of Knowledge Management*, 9 (3), 101-15.

Darroch, J. and McNaughton, R. (2002), "Examining the link between knowledge management practices and types of innovation", *Journal of Intellectual Capital*, 3 (3), 210-22.

Davenport, T. and Prusak, L. (1998), *Working Knowledge*, Harvard Business School Press, Boston, MA.

De Long, D. and Fahey, L. (2000), "Diagnosing cultural barriers to knowledge management", *Academy of Management Executive*, 14 (4), 113-27.

Dodgson, M. (1993), "Organizational learning: a review of some literatures", *Organization Studies*, 14 (3), 375-94.

Fichman, R. and Kemerer, Ch. (1997), "The assimilation of software process innovations: an organizational learning perspective", *Management Science*, 43(10), 1345-63.

Fiol, C. and Lyles, M. (1985), "Organizational learning", *Academy of Management Review*, 10 (4), 803-13.

Forrester, R. (2000), "Capturing learning and applying knowledge: an investigation of the use of innovation teams in Japanese and American automotive", *Journal of Business Research*, 47 (1), 35-45.

Galunic C, Weeks J (2001). A Cultural Evolution in Business Thinking: Mastering people Management, *Financial Times* (London). pp. 2-3.

Garvin, D. (1993), "Building a learning organization", *Harvard Business Review*, 74 (4), 78-91.

Goh, S. C. (2003). Improving organizational Learning capability. *The learning Organization*, 10(4), 3-9.

Gold, A.H., Malhotra, A., and Segars, A.H. (2001), 'Knowledge Management: Organizational Capabilities Perspective,' *Journal of Management Information Systems*, 18 (1), 185–214.

Hage, J. (1999), "Organizational innovation and organizational change", *Annual Review of Sociology*, 25, 597-622.

Hofstede, G. (1980), *Culture's Consequences: International Differences in Work-related Values*, Sage, Thousand Oaks, CA.

Huber, G. (1991), "Organizational learning: the contributing processes and the literatures", *Organization Science*, 2 (1), pp. 88-115.

Hurley, R.F., Tomas, G., and Hult, M. (1998), 'Innovation, Market Orientation, and Organizational Learning: An Integration and Empirical Examination,' *Journal of Marketing*, 62, (3), 42–45.

Jang, S., Hong, K., Bock, G. and Kim, I. (2002), "Knowledge management and process innovation: the knowledge transformation path in Samsung SDI", *Journal of Knowledge Management*, 6 (5), 479-85.

Kogut, B. and Zander, U. (1992), "Knowledge of the firm, combinative capabilities and the replication of technology", *Organization Science*, 3 (3), 383-97.

Kotter, J., and Heskett, J. (1992), *Corporate Culture and Performance*, New York: Free Press.

Kululanga, G.K., Edum-Fotwe, F.T., and McCaffer, R. (2001), 'Measuring Construction Contractors' Organisational Learning,' *Building Research and Information*, 29 (1), 21–29.

Lau, Ch-M. and Ngo, H-Y. (2004), "The HR system, organizational culture, and product innovation", *International Business Review*, 13 (6), 685-703.

Lee, Ch. and Chen, W-J. (2005), "The effects of internal marketing and organizational culture on knowledge management in the information technology industry", *International Journal of Management*, 22(4), 661-72.

Lemon, M., and Sahota, P.S. (2004), 'Organizational Culture as a Knowledge Repository for Increased Innovative Capacity,' *Technovation*, 24, (7), 483–498.

Leona, L. (2004), "Knowledge management and organizational culture: a social action perspective", Doctoral dissertation, George Washington University, Washington, DC.

Leonard, D. (1995), *Wellsprings of Knowledge: Building and Sustaining the Sources of Innovation*, Boston, MA: Harvard Business School Press.

Liao, S.H., Fei, W.C., and Chen, C.C. (2007), 'Knowledge Sharing, Knowledge Absorptive Capacity, and Innovation Capability: An Empirical Study in Taiwan Knowledge Intensive Industries,' *Journal of Information Science*, 33, (3), 1–20.

Lin, Y.P. (2003), 'The Relationships Among the Market Orientation, Organizational Learning, Organizational Innovations, and Organizational Performance – The Empirical Examination for Information Technology Industry in Scientific Industry Park,' doctoral dissertation, National Sun Yat-Sen University, Kaoshiung (in Chinese), Taiwan, ROC.

Lin, Y.P., Huang, J.Y., and Tung, Y.C. (2004), 'How Organizational Learning and Organizational Innovations Mediate Market Orientation and Organizational Performance: An Empirical Study of the Information Technology Industry in Scientific Industry Park,' *Management Review*, 23, (1), 101–134.

Lynn, B.E. (1999), 'Culture and Intellectual Capital Management: A Key Factor in Successful ICM Implementation,' *International Journal of Technology Management*, 18, (5), 590–603.

Mahler, J. (1997), 'Influences of Organizational Culture on Learning in Public Agencies,' *Journal of Public Administration Research and Theory*, 7, (4), 519–540.

Makoei, ahmad, Sh., Mohammad, A, & Kazemi, S. (2010). Develop a model of Management, 5(1), 5-23.

Matofi, A., & Ahmadyan, A. (2010, August).The effect of entrepreneurship on learning and innovation: an experimental control, small firms in Tehran. Presentation to the 1st Annual Conference of Management, Innovation, Entrepreneurship, Shiraz, Iran.

McKee, D. (1992), "An organizational learning approach to product innovation", *Journal of Product Innovation Management*, 9 (3), 32-45.

Muffatto, M. (1998), 'Corporate and Individual Competencies: How Do They Match the Innovation Process?' *International Journal of Technology Management*, 15, (7), 836–853.

Murat, I. and Baki, B. (2011), "Antecedents and performance impacts of product versus process innovation: empirical evidence from SMEs located in the Turkish science and technology parks", *European Journal of Innovation Management*, 14 (2), 172-206.

Nonaka, I. (1991), "The knowledge-creating company", *Harvard Business Review*, 69 (6), 96-104.

Nonaka, I. and Takeuchi, H. (1995), *The Knowledge-creating Company: How Japanese Companies Create the Dynamics of Innovation*, Oxford University Press, New York, NY.

Obenchain, A. and Johnson, W. (2004), "Product and process innovation in service organizations: the influence of organizational culture in higher education institutions", *Journal of Applied Management and Entrepreneurship*, 9(3), 91-113.

Obenchain, M. (2002), "Organizational culture and organizational innovation in not-for-profit", private and public institutions higher education, Doctoral dissertation, Nova Southeastern University, Davie, FL.

Perez, S., Montes, J. and Vazquez, C. (2004), "Managing knowledge: the link between culture and organizational learning", *Journal of Knowledge Management*, 8 (6), 93-104.

Quinn, J.B., Anderson, P., and Finkelstein, S. (1996), 'Managing Professional Intellect: Making the Most of the Best,' *Harvard Business Review*, 74, (2), 71–80.

Robbins SP (2001). *Organizational Behavior*, New Jersey: PrenticeHall. Mitchell MA, Yate D (2002). How to use your organizational culture as a competitive tool. *Nonprofit World*, Madison, 20(2), 33-34.

Saki, S, Shakiba, H & Savari, M. (2013), Study of the Relationship between the Organizational Learning and Organizational Innovation at University of Tehran, *Journal of Organizational Learning and Leadership*, 11, (1), 1–18.

Salavou, H., Baltas, G. and Lioukas, S. (2004), “Organisational innovation in SMEs: the importance of strategic orientation and competitive structure”, *European Journal of Marketing*, 38 (9), 1091-112.

Samadaghei, J. (2001). Individual and group creativity technique, Tehran. Public Administration Training Centre, 1(2), 98-104.

Scarbrough, H. (2003), “Knowledge management, HRM and the innovation process”, *International Journal of Manpower*, 24 (5), 501-516.

Schein, E.H. (1996), ‘Three Cultures of Management: The Key to Organizational Learning,’ *Sloan Management Review*, 38, (1), 9–20.

Senge, P.M. (1990), *The Fifth Discipline: The Art and Practice of the Learning Organization*, Random House, London.

Sinkula, J. (1994), “Market information processing and organizational learning”, *Journal of Marketing*, 58(1), 35-45.

Sinkula, J.M., Baker, W.E., and Noordewier, T. (1997), ‘A Framework for Market-Based Organizational Learning: Linking Values,’ *Knowledge, and Behaviour*, *Journal of Academy of Marketing Science*, 25, (4), 305–318.

Slater, S. and Narver, J. (1995), “Market orientation and the learning organization”, *Journal of Marketing*, 59 (3), 63-74.

Stata, R. (1989), ‘Organizational Learning: The Key to Management Innovation,’ *Sloan Management Review*, 30, (3), 63–74.

Susana, P.L., Jose´, M.M.P., and Camilo, J.V.O. (2004), ‘Managing Knowledge: The Link Between Culture and Organizational Learning,’ *Journal of Knowledge Management*, 8, (6), 93–104.

Tippins, M. and Sohi, R. (2003), “IT competency and firm performance: is organizational learning a missing link”, *Strategic Management Journal*, 24 (8), 745-61.

Weerawardena, J., O'Cass, A., and Julian, C. (2006), 'Does Industry Matter? Examining the Role of Industry Structure and Organizational Learning in Innovation and Brand Performance,' *Journal of Business Research*, 59 (1), 37–45.

Wei Z, Baiyin Y, Gary NM (2010). Linking organizational culture, structure, strategy, and organizational effectiveness: Mediating role of knowledge management. *J. Bus. Res.*, 63(7), 763-771.

Weiling, K., and Kwok, K.W. (2006), 'Organizational Learning Process: Its Antecedents and Consequences in Enterprise System Implementation,' *Journal of Global Information Management*, 14, (1), 1–22.

Yli-Renko, H., Autio, E. and Sapienza, H. (2001), "Social capital knowledge acquisition and knowledge exploitation in young technology-based firms", *Strategic Management Journal*, 22 (6), 587-613.