International Academic Institute for Science and Technology

International Academic Journal of Business Management
Vol. 3, No. 1, 2016, pp. 205-221.

ISSN 2454-2768

International Academic Journal of Business Management

www.iaiest.com

Investigating the effect of inter-organizational learning on the performance of innovation in the supply chain of engineering and supplying automotive parts of Iran Khodro (Sapco)

Milad khajouei nasab[a]

[a]*Department of Management, Sirjan branch, Islamic Azad University, Sirjan, Iran.*

Abstract

This research investigates the effect of inter-organizational learning on the operation of innovation in the supply chain of Sapco company. This is a practical research in terms of objective and a survey-correlational research in terms of the method of data collection. Statistical society of this research is the experts, technical and non-technical managers of supplying chain of Sapco which includes more than 130 people. Inter-organizational questionnaire of ERIC T.G WANG (2012) and innovation performance of Jimenez-Jimenez et al (2008) was delivered to statistical society which finally 123 questionnaires were completed by the society. The validity of the questionnaires was confirmed by a number of university faculties. Then factor analysis was used in order to determine structure validity; since factor load of all items was above 0.5, it shows the validity of measurement tools. Stability of the questionnaires was also calculated using Cronbach's alpha coefficients. This coefficient was equal to 0.94 for inter-organizational learning and 0.89 for questionnaire of innovation performance. In this research, modeling of structural equations by LISERL software was used in order to test research conception model which the results showed appropriate fitness of the model; i.e. inter-national learning has a positive significant effect on innovation performance. Also the dimensions of inter-organizational learning have a positive significant effect on the performance of innovation.

Keywords: inter-organizational learning, innovation performance, structural equations modeling, supply chain of Sapco.

Introduction:

In the current changing global economy, the increase of variety and the complexity of product have encouraged the organizations to act for creating value for customers via supply chain (Copra & et al,2007), because the production organizations have received that it is better to use production resource out of organization for proper organization of parts supply; therefore, the thought of supply chain has been formed (Kaminsky & et al,2005) in which having an efficient and agile supply chain is considered as a very important deterministic competitive advantage in competition area (Kuei and Madu 2001). Therefore, in order to reach the efficient and agile supply chain, inter-organizational learning must be developed in the constituent organizations of supply chain. There is a strong correlation between innovation and organizational learning, i.e. the development of organizational learning results in the increase of innovation and organizational performance (Hung and et al, 2011). Therefore, with regard to the searches implemented by researchers, there was no research to investigate the effect of inter-organizational learning on the performance of innovation in supply chain.

So this research is following to respond to this question: is inter-organizational learning effective on the innovation performance of supply chain in Sapco?

Theoretical basis of research:

Levels and dimensions of inter-organizational learning

Inter-organizational learning has various dimensions and indices which are addressed in the following:

Effective management of supply chain often includes the close relation based on trust with long term suppliers (Dyer and Singh, 1998). The close relation helps companies to create new capabilities by attracting knowledge from external environments (Celuch et al, 2002). The quality of a good relation causes the creation of mutual trust and exchange which stimulates the exchange of information and knowledge flows (Uzzi et al, 2002). Frequent contacts and close feeling between the members of supply chain increases the rate of complexity in knowledge transfer (Hansen, 1999); because the involved groups in knowledge exchange need an exchange process for the balance in cost rate and the benefit related to such exchange (Schuls, 2001). Therefore, the quality of relation is one of the most important capabilities which help obtaining and attracting knowledge in a supply chain. Some studies show that access to information and knowledge flows are the important benefits of network communication such as the relations of supply chain for better performance (Anderson and Weitz, 2001). The close relation of company with suppliers and customers facilitates the attraction of new knowledge and then the increase of its performance. The new companies that their networks have been tied to the promotion of learning and maximizing the access to information have better performance (Baum et al, 2000). The close relations between supplier-producer provide the possibility of information exchange and explicit and specific knowledge. These evidences also show essential role of quality of the relations in the exchanged knowledge and inter-organizational learning processes (Helper, 1990) and (Uzzi and Gillespie,1997). The quality of the relations is a multi-dimensional structure which is specified by the variables such as trust, commitment, communication, coordination and joint- problem-solving (Naude and Buttle, 2000). Trust and commitment show stability and reliability of a long term relation which can provide appropriate

approaches and behaviors of partners and associates and can facilitate investment and sharing resources (Spekman and Kamauff, 1998). These cases are critical for obtaining knowledge; because they are effective both on the rate and efficiency of the exchanged knowledge in inter-organizational relations (Lane and Salk, 2001). Processes of communication, coordination, and joint problem solving between the partners and colleagues makes the company able to analyze, process, anticipate and understand the obtained information, however the external obtained knowledge may be in a special area and not understandable (Zahra and George, 2002). Through the frequent communications and coordination between the buyers and suppliers, they can improve their mutual understanding and accelerate knowledge learning. Joint problem solving is important especially about urgent needs for external knowledge and such process can rapidly bring the knowledge of colleagues and partners inside the company through free discussion for reaching solution.

Inter-organizational systems

In the recent years, sharing information by the partners of supply chain through inter-organizational systems such as electronic data interchange (EDI) has been converted to a main component in the management of supply chain (Holland, 1995). Companies have found new ways via inter-organizational systems for extracting and extending their informational capabilities in a strategic way in supply chain which decreases total time cycle and improves responsibility (Golden and Powell, 1999). Inter-organizational systems as an important part of organizational memory can make knowledge transparent, portable and integrated; therefore the obstacles for learning are lowered. Companies can solve their problems through the existing and confirmed information and gain more knowledge from external environment. Creative use of inter-organizational systems in common activities makes able the companies to extract knowledge, and wide utilization of inter-organizational systems can inject the new potential knowledge in inter-organizational systems to broader area of working activities. Implementation of information systems is indeed the process of externalization and combination of knowledge. In order to develop requirements and making official, the working processes, people are forced to reflect their understanding method of their work and to make clear their implicit knowledge. This clear knowledge then can be turned to more complex and systematic sets to form a new knowledge (Nonaka et al, 2000). This knowledge transfer continuously occurs in the implementation of inter-organizational systems, especially as a reference framework of different technologies from suppliers, customers and many other operational units that lead to inconsistent interpretation of the same information (Davidson, 2002). The ability of the companies for combining this knowledge into a new template of informational systems shows the learning capability which provides opportunities for presenting another method in order to perform the works and to improve working processes (Zahra and Davids, 2002).

Tendency to learning

Since the companies are following methods for responding changing environment, tendency to learning is an important organizational culture for removing the obstacles between organization and environment (Burnes and West, 2010) and encourages obtaining and using external knowledge. Tendency to learning can be effective on the capability of using information and its transfer to knowledge as a key part of innovative processes (Lee et al, 2000). This issue has three organizational values (commitment to learning, lacking prejudice, sharing viewpoint) which is influential on the direction and intensity of creating and using knowledge and the challenge of using organization theory (Sinkula and Noordewier). Tendency to learning can highlight organization ability for exploring unknowns and recognizing innovative solutions in the contexts of uncertainty (Sitkin and Schroeder, 1994). It is important for the

organizations to learn in the supply chain. A learning organization tends to preserve the best solutions in its organizational memory for the use in urgent interactions and also encourages creating new knowledge for satisfying the creation of product and valuable service for customer (Slater and Narver, 1995). Despite the importance of knowledge-creating behaviors, the request for the existence of knowledge values is necessary in order to create distinct innovations for companies (Baker and Sinkula, 1999). One non-bigotry learning organization, doesn't hesitate for change through learning from its customers or suppliers and the effect of the knowledge from external colleagues of the organization remains in organization memory for a specified period through forcing educated person (Day, 1994). At the same time with tendency to learning, the companies can more develop their inter-company capabilities in supply chains and make better decisions based on the shared and not-distorted information in the subjective model of the managers.

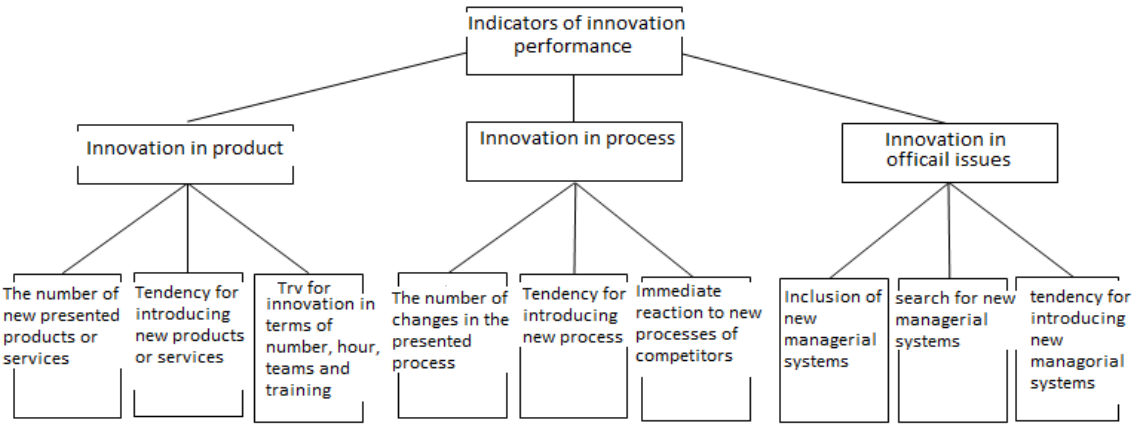
Performance of innovation

Innovation has been defined as the utilization of knowledge for presenting a new product or service which is requested by the customers (Afuah, 1998). Here, the new knowledge refers to the knowledge of technology or market. Technology knowledge means the recognition of components, the bond between components, methods, the used procedures and techniques in a product or service. Market knowledge means the recognition of distribution channels, product applications, requirements and demands of customers. Accordingly, innovation performance is the utility of an innovation presented with regard to the knowledge of market and technology (Moor, 1995).

In the area of innovation performance, the four main models are:

Innovation performance model of Jiemenez-Jiemenez et al (2008)

In this model, innovation performance is divided into three groups of innovation in product, innovation in process and innovation in official issues. In the graph 1, some indicators of these groups are presented.



Graph 1- Indicators of innovation performance (resource: Jiemenez-Jiemenez et al, 2008)

Research Background

Farsanjani and Samiei Nistani (2010) studied the role of integrity between comprehensive quality management and technology management in the determination of quality and innovation performances about the production companies in Markazi province. The results showed that comprehensive quality management has a strong anticipation power for the qualitative performances of organization; but they have no specific and remarkable relation with innovation performances.

Shu Mi Yung et al (2014) performed a research with the topic of knowledge exchange and knowledge preserving in the inter-organizational learning of dual approach; the results showed that duality concept in the area of inter-organizational learning is extended and we propose mechanisms that can increase knowledge exchange and preserving simultaneously. A field study is performed and the results show that sharing experiences and also common anticipations are positively related to the success of knowledge exchange. The agreement can increase the level of protection from knowledge; while mutual investment has no effect on protection of knowledge. Moreover, this duality (a phrase from the success of knowledge exchange and protection of knowledge) considerably affects the performance of a company (Shu mi Yung et al, 2014).

Hung et al (2011) investigated the effect of organizational learning and pervasive quality management on innovation performance. Results showed that pervasive quality management has positive and meaningful effect on organizational learning. Moreover, pervasive quality management and organizational learning have positive and meaningful influences on innovation.

Satish and Srinivasan (2010) investigated the relation between pervasive quality management and innovation. Results showed that pervasive quality management and innovation have a meaningful relation.

Gibl et al (2009) studied the effect of pervasive quality management on innovation. They concluded that pervasive quality management has effect on innovation.

Wang and Ellinger (2008) investigated organizational learning and performance of innovation. They were convinced by the results that organizational learning has a meaningful relation with innovation performance in the both levels of individual innovation and organizational innovation performance.

Ilger and Shiva (2008) worked on investigating of organizational learning ability effect on product innovation performance. They found out that organizational learning has influence on product innovation.

Casta and Jimenez (2008) investigated successfully the effects of pervasive quality management on organizational learning. Results illustrated that pervasive quality management has effect on learning.

Parjoga and Sohal (2004) investigated multidimensional methods of pervasive quality management in determination of performance quality and innovation in Australian industries. Results showed that pervasive quality management has a meaningful relation with quality of performance and innovation in the aspect of mechanical or organic methods. He also realized that there is a relation between mechanical aspect of pervasive quality management and performance quality and organic aspect with innovation performance as well.

Benner and Tushman (2003) concluded that pervasive quality management cannot preclude innovation from emerging.

Theoretical framework of the research

Functions of theory are diverse in the research. However, one of the most significant functions of scientific theories is where the researcher puts his or her work in a very definite path by referring to theories, which means scientific theories are scientific and theoretical guide for researcher. In fact, various theories will play their own role and support scientific works by determining theory framework. Eventually, validity and pervasiveness and/or adequacy of theories in determining lawfulness governing the behavior and social life of human beings were examined in the place and time territory (Keshavarz, 1388). The knowledge and ability for its creation through learning is counted as a key productive resource that can result in value added, strategic importance, and competitive benefit (Garnet, 1996). Due to the fact that value added creation usually needs various types of professional knowledge which may usually exist out of the organization, learning from other organizations in the supply chain is a justified way for acquiring science (Dair and Sing, 1998). The knowledge which is provided in supply chain from distributors (because of being near to final market) usually introduces a correct description of dynamisms and worldwide demands of final market. Therefore, it helps suppliers market to have orientation (Hernandez et al, 2007). In fact, competitive distributors resulting in effectiveness of suppliers is indicative of sharing knowledge which causes increase in their competitiveness of service costs, cycle time, coordination of activities and competitiveness benefit (main components of performance). Learning from the relations of supply chains enhances the ability of company for a more efficient performance. The received knowledge from distributers brings about improvement of the inside operations of chain and it also results in prioritizing of needs and preferences of customers (Halt et al, 2002). According to above discussion, there is a positive relation between inter-organizational learning and innovation performance of supply chain. So, the main theory of research can be formulated in the way that inter-organizational learning has a positive and meaningful impact on innovation performance of SAPCO supply chain (Chart#2, comprehensive model of research). Therefore, the main and subsidiary assumptions will be as following:

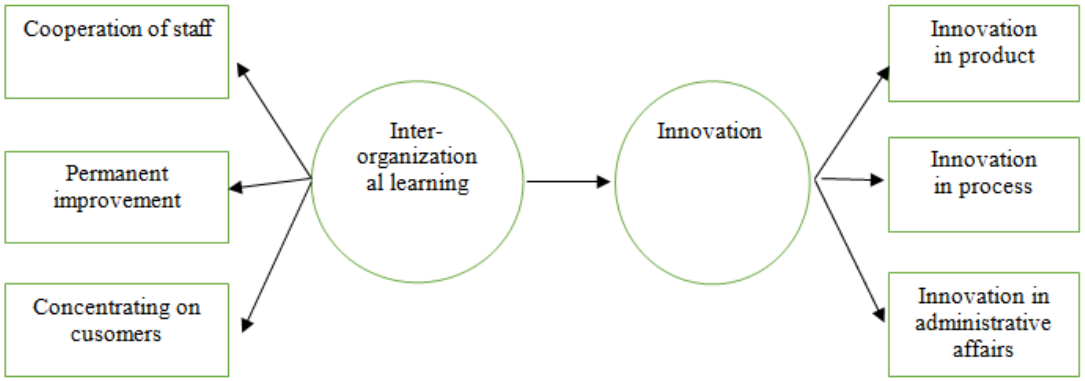


Chart 2. Comprehensive model of research

The main assumption: inter-organizational learning has a positive and meaningful impact on innovation performance in supply chain of SAPCO Company

The first subsidiary assumption: the quality of inter-organization relations has a positive and meaningful effect on innovation performance of SAPCO Company.

The second subsidiary assumption: inter-organizational systems have a positive and meaningful effect on innovation performance of Company supply chain.

The third subsidiary assumption: willingness for learning has a positive and meaningful effect on innovation performance of SAPCO supply chain.

Research methodology

The population, sample and sampling

The present work is functional in aim. Its methodology is descriptive (پیمایشی). In this work, firstly the subject was investigated by the use of library sources. Then, research variables were gathered through a 58 question survey With the whole five-point Likert. Statistical society of this work was CEOs and technical and nontechnical experts of SAPCO company including 130 people. Owing to low volume society, through census all CEOs, technical and nontechnical experts were investigated. For determining the validity of survey, professors CEOs and expert's idea of SAPCO was used. According gathered thoughts the validity of survey was confirmed. Moreover, the validity of surveys was assessed through analyzing confirming parameter. The results are shown in the figure. As it can be seen in the figures 1 and 2 loading factor of all items are more than 0.5 which indicates the validity of survey. In the stability of survey, Kronbaq alpha and compound stability is used. Which results are shown in the table 3. According to table 3, the results show the stability of survey.

Research tools

Confirmatory factor analysis of inter-organizational learning

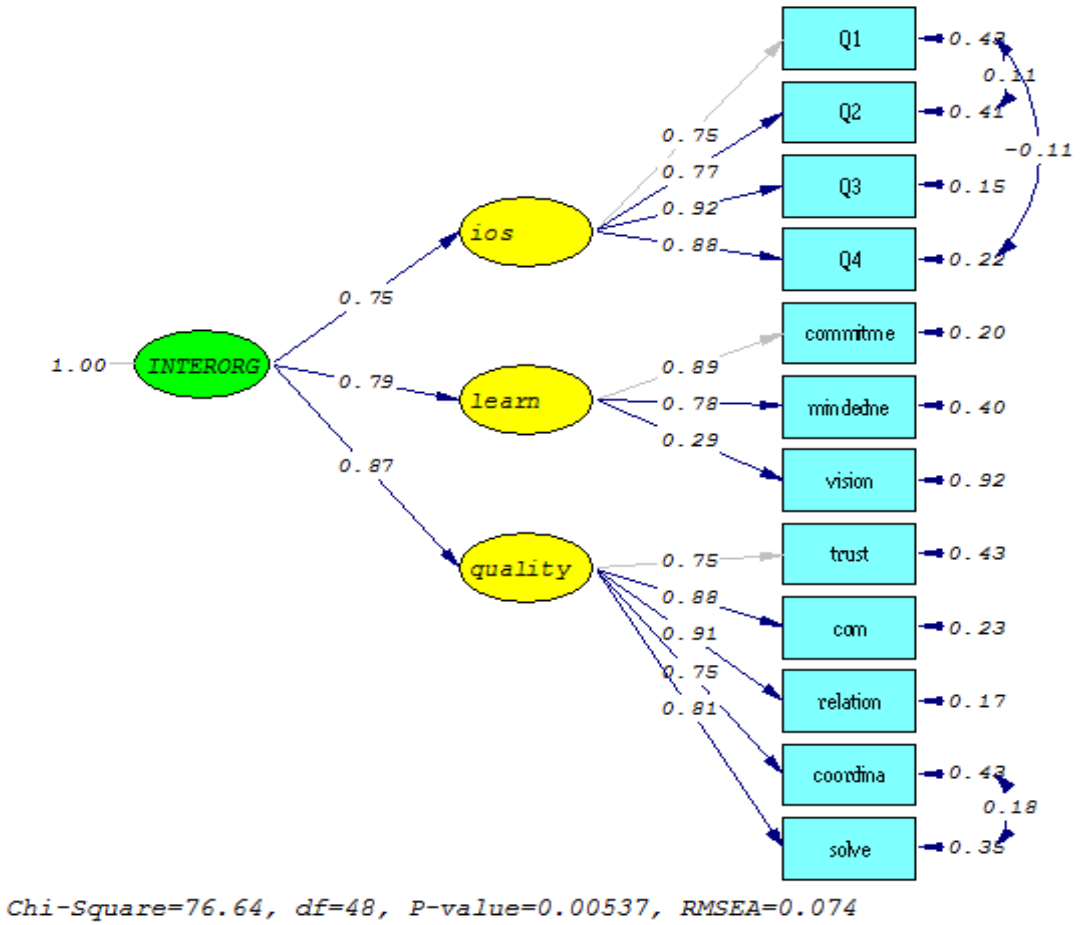


Figure 1: Standard factor loading of analysis of inter-organizational learning

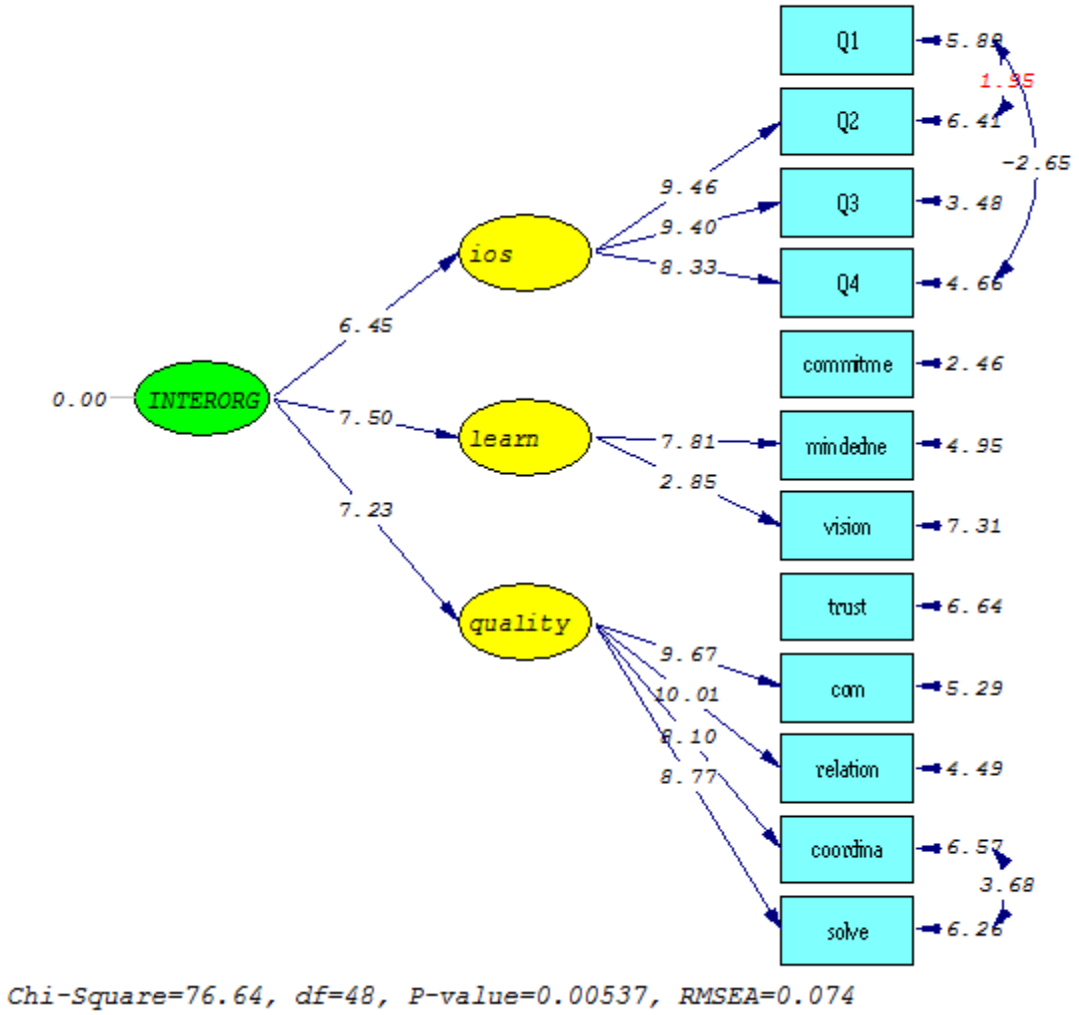


Figure 2: Statistical significance (t-value) analysis of inter-organizational learning

Confirmatory factor analysis for inter-organizational learning

In case of significance, t-value should be greater than 1.96 for the relationship between every question and variable to be significant. Since t-value for every question was greater, hence the relation between questions and the variables were significant, and hence these questions properly describe the variable of the study. The closer the factor loading is to 1, the better the question describes the hidden variable. If the factor loading is less than 0.3, then the relation is considered weak and thus it is neglected. Factor loading in the range of 0.3-0.6 is considered acceptable, while anything greater than 0.6 is thought to be desirable.

As it can be seen in figures 1 and 2, factor loading for every question is greater than 0.3, and therefore these questions properly describe the variable.

Table 1: indexes of model fitting of inter-organizational learning

No	Fitting index	Acceptable level	Model value
1	x^2/df	1-5	1.59
2	RMSE	< 0.1	0.074
3	GFI	> 0.9	0.94
4	RMR	> 0.9	0.93
5	CFI	> 0.9	0.97

Based on the calculated values for table 1, the values for df /x^2 ،RMSE ،GFI ،RMR ،CFI ،NNFI indicate good fitting of model.

Confirmatory factor analysis of innovation performance

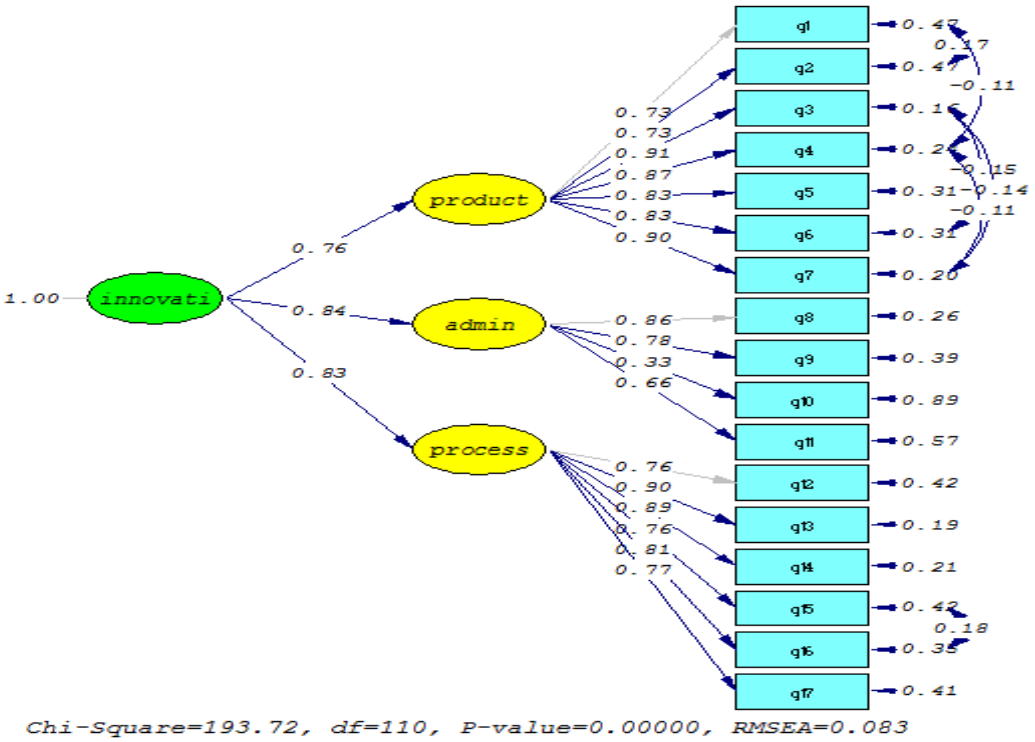


Figure 3: standard factor loading of innovation performance analysis

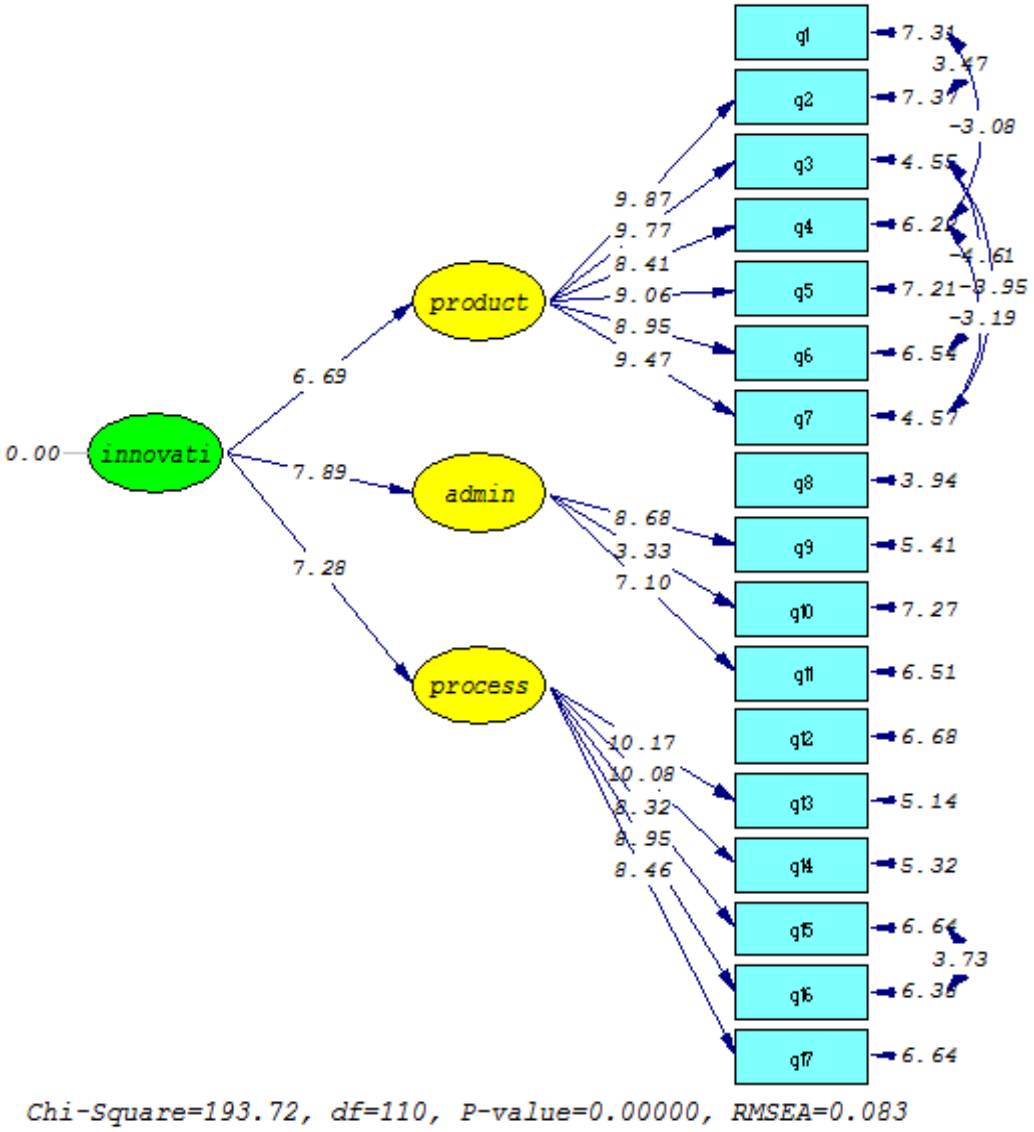


Figure 4: t-value for innovation performance analysis

Confirmatory factor analysis for inter-organizational learning

In case of significance, t-value should be greater than 1.96 for the relationship between every question and variable to be significant. Since t-value for every question was greater, hence the relation between questions and the variables were significant, and hence these questions properly describe the variable of the study. The closer the factor loading is to 1, the better the question describes the hidden variable. If the

factor loading is less than 0.3, then the relation is considered weak and thus it is neglected. Factor loading in the range of 0.3-0.6 is considered acceptable, while anything greater than 0.6 is thought to be desirable. As it can be seen in figures 1 and 2, factor loading for every question is greater than 0.3, and therefore these questions properly describe the variable.

Table 2: indexes for model fitting of innovation performance

No	Fitting index	Acceptable level	Model value
1	x^2/df	1-5	1.76
2	RMSE	< 0.1	0.083
3	GFI	> 0.9	0.94
4	RMR	> 0.9	0.93
5	CFI	> 0.9	0.97

Based on the calculated values for table 2, the values for df /x^2 ،RMSE ،GFI ،RMR ،CFI ،NNFI indicate good fitting of model.

Table 3: validity and reliability of components

Latent variable		Composite Reliability	Diagnostic validity	Cronbach's alpha coefficients
Inter-organizational learning	Quality of inter-organizational relationships	0.82	0.72	0.83
	Inter-organizational systems	0.93	0.67	0.83
	Willingness to learn	0.90	0.71	0.78
Innovation performance	Innovations in Product	0.94	0.69	0.92
	Innovations in Process	0.92	0.47	0.92
	Innovations in Administration	0.76	0.66	0.86

The process of analysis was conducted by SPSS 19 and AMOS 18.

Findings

This study intended to investigate that whether inter-organizational learning has an effect of innovation performance of supply chain of Sapco Company. For this purpose, the fitting of research model is investigated, and factor analysis through LISREL software is conducted. In the following, standardized coefficients and significant coefficients for the model are shown.

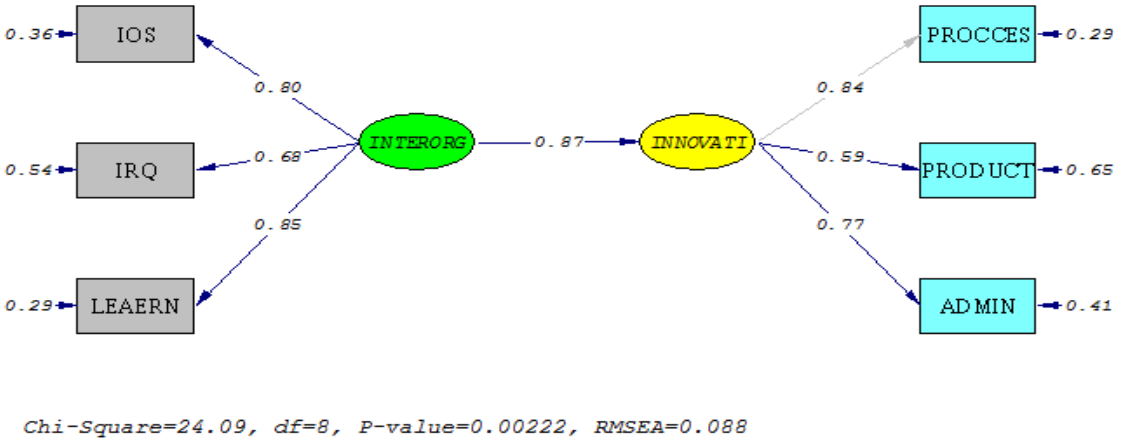


Figure 5 – the results for confirmation of the relationship between inter-organizational learning and innovation performance

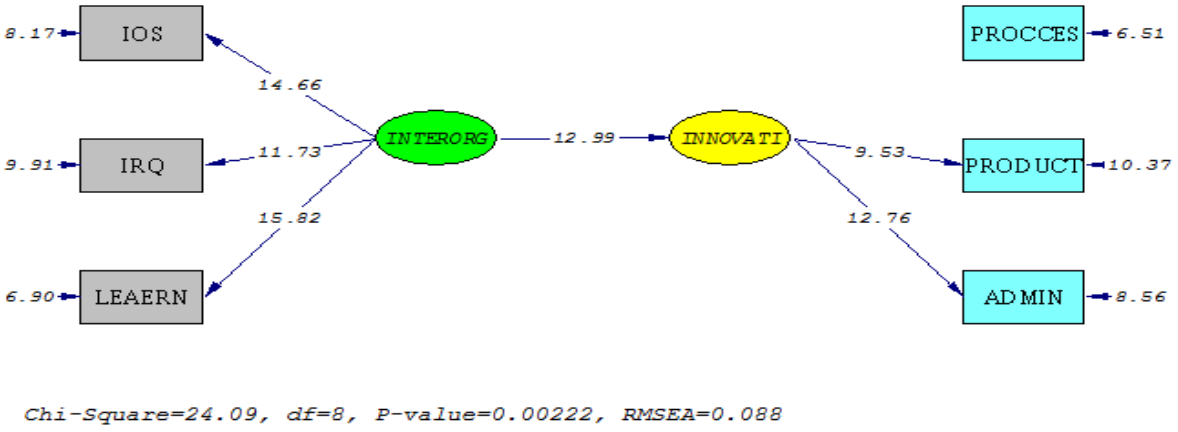


Figure 6 – t-value for results of final model of relation between inter-organizational learning and innovation performance

Table 4 – goodness of fitting of structural model of research hypotheses

Fitness index	SRMR	RMSEA	GFI	AGFI	NFI	NNFI	IFI
Acceptable values	<0.1	<0.1	>0.9	>0.9	>0.9	>0.9	0-1
Calculated value	0.037	0.088	0.95	0.93	0.96	0.94	0.99

Since the acquired fittings are higher than the extent permitted, and considering the figures of 5 and 6, it can be said that the conceptual model in properly fitted; i.e. the gathered data sufficiently define the relation of the conceptual model. Figures 5 and 6 are used for auxiliary purposes, the results of which is presented in table 5:

Table 5 – the results for Structural equation modeling of research hypotheses

The relations of variables	Effect (R)	Result
The quality of inter-organizational relations – Innovation performance	0.59	Approved
Inter-organizational systems - Innovation performance	0.69	Approved
Willingness to learn - Innovation performance	0.73	Approved
Inter-organizational learning	0.87	Approved

As it can be seen from figures 5 and 6, and table 5, inter-organizational learning and its dimensions (senior management support, employee involvement, continuous improvement) directly affect innovation performance. The reason behind this is that, Inter-organizational learning promotes the ability to attract knowledge and consequently innovation performance. Hence, innovations are usually rooted in research and development units and other organizational units. Organizations can develop new products by creating organizational value in learning and encouraging employees to gather and self-less sharing of information. Moreover, innovation may itself change into problem-solving process.

Discussion and Conclusion

The results of the study indicate that Innovation performance is 87 percent directly affected by inter-organizational learning. Inter-organizational learning promotes the ability to attract knowledge and consequently innovation performance. Organizations can develop new products by creating organizational value in learning and encouraging employees to gather and self-less sharing of information. Inter-organizational learning has an important role in improving innovation. Knowledge-

based approach can direct organizations to knowledge creation and improved performance through quality management.

Researchers can study the effects of various factors including organizational culture, leadership styles, training and employee involvement, and employee motivation on innovation performance in government and service organizations

References:

Anderson, E. &Weitz, B.A. "The use of pledges to build and sustain commitment in distribution channels," *Journal of Marketing Research*, 1992,24, 18-34.

Baker, W.E. & Sinkula, J.M. "Learning orientation, market orientation, and innovation: Integrating and extending models of organizational performance," *Journal of Market Focused Management*, 1999,4, 295-308.

Baum, J.A.C., Calabrese, T., & Silverman, B.S. "Don't go it alone: Alliance network composition and starup's performance in canadian biotechnology," *Strategic Management Journal*, 2000,21(3), 267-294.

Benner M.J, Tushman ML. (2003), "Explotation, Exploration, and process management: the productivity Dillema Revisited". Academy of management Review, 28(2). 238-56.

Celuch, K.G., Kasouf, C.J., & Peruvemba, V. "The effects of perceived market and learning orientation on assessed organizational capabilities," *Industrial Marketing Management*, 2002,31, 545-554.

Chopra, BK; Bhat, S; Mikheenko, IP; Xu, Z; Yang, Y; Luo, X; Chen, H; van Zwieten, L; Lilley, RM; Zhang, R. 2007. The characteristics of rhizosphere microbes associated with plants in arsenic-contaminated soils from cattle dip sites. SCIENCE OF THE TOTAL ENVIRONMENT. 378(3):331-342.

Davidson, E.J. "Technology frames and framing: A socio-cognitive investigation of requirements determination," *MIS Quarterly*, 2002,26(4), 329-358.

Day, G.S. "The capabilities of market-driven organizations," *Journal of Marketing Research*, 1994,58, 37-52.

Deming, W. E. (1986). "Out of the crisis. Cambridge", MA: MIT Center forAdvanced Engineering Study

Dyer, J.H. & Singh, H. "The relational view: Cooperative strategy and sources of interorganizational competitive advantage," *Academy of Management Review*, 1998,23, 660-679.

Farsijani, H., Feizi, K., Shafi'i Nick Abadi, M., (2011). "The impact of competitive forces on application of knowledge to improve supply chain performance in the automotive industry". *Outlook of Business Administration*, No. 6, pp. 71 to 92.

Farsijani, Hassan; Samii Neiestani, Abolfazl. (2010). "The Role of integration between TQM and technology management functions in determining the performances of quality and innovation" .*Journal of IT Management*, 2 (4), pp. 117 to 136.

Fattahi, P. (2009). "Management of quality and efficiency," Tehran: PNU.

Golden, W. & Powell, "Exploring inter-organisational systems and flexibility in ireland: A case of two value chains," *International Journal of Agile Management Systems*, 1999,1(3), 169-187.

Hansen, M.T. "The search-transfer problem: The role of weak tie in sharing knowledge across organization subunits," *Administrative Science Quarterly*, 1999,44(1), 82-111.

Helper, S. "Comparative supplier relations in the u.S. And japanese auto industries: An exit voice approach," *Business Economic History*, 1990,19, 153-162.

Holland, C.P. "Cooperative supply chain management: The impact of interorganizational information systems," *Journal of Strategic Information Systems*, 1995,4(2), 117-133.

Hung, R.Y., Lien, B.Y., Yang, B., Wu, C. & Kuo, Y. (2011). Impact of TQM and organizational learning on innovation performance in the high-tech industry. Journal of International Business Review, 20(2), 213-225.

Jimenez-Jimenez, D.,Vall,R.S .and Espallardo,M.H .(2008), "Fostering innovation - The role of market orientation and organizational learning", European Juornal of innovation Management , 11 (3). 389-412.

Kaminsky DA, Marcy TW, Bachand N, et al. Knowledge and use of office spirometry for the detection of chronic obstructive pulmonary disease in primary care physicians. Respir Care. 2005;50:1639–48.

Kanji, G. K. (1996). "Can total quality management help innovation?" "Total Quality Management, 7(1) 3-9.

Ketchen D.J, Hult G.T.M (2007). Bridging organization theory andsupply chain management: The case of best value supply chains. Journal of Operations Management; 25: 573-580.

Lane, P. & Salk, J.E. "Absorptive capacity, learning, and performance in international joint ventures," *Strategic Management Journal*, 2001,22(12), 1139-1161.

M.Y. Lam. Gary K.K. Poon and K.S. Chin. (2008) "An organizationallearning model for vocational education in the context of TQM culture" International Journal of Quality & Reliability Management . 25 (Naude, P. & Buttle, F. "Assessing relationship quality," *Industrial Marketing Management*, 2000,29, 351-361.

McAdam, R, & Armstrong, G. (2001). "A symbiosis of quality and innovation in SMEs: A multiple case study analysis". Managerial Auditing Journal, 16(7), 394-399.

Nonaka, I., Toyama, R., & Konno, N. "Seci, ba and leadership: A unified model of dynamic knowledge creation," *Long Range Planning*, 2000,33, 5-34.

Parjogo, D. I., & Sohal, A S. (2003). "The relationship between TQM practices, quality performance, and innovation performance". The International Journal of Quality& Reliability Management, 20(8), 901–918.

Prajogo, D.I., & Sohal, A.S. (2004). The multidimensionality of TQM practices in determining quality and innovation performance — an empirical examination. Journal of Tec novation, Volume 24, Issue 6, June 2004, Pages 443–453.

Rothaermel, F. T., & Deeds, D. L. (2004). "Exploitation alliances inbiotechnology: A system of new product development". Strategic ManagementJournal, 25(3), 201–221.

Sanz-Valle.R, Valencia.N, Jiménez-Jiménez.D, Perez.P (2011) "Linking organizational learning with technical innovation and organizational culture": Journal of Knowledge Management. 15(6). 997 – 1015.

Satish, K.P, and Srinivasan, R. (2010). Total Quality Management and Innovation Performance: An Empirical Study on the Interrelationships and Effects. SOUTH Asian Journal of Management, 17 (3), 8-22.

Schulz, M. "The uncertain relevance of newness: Organizational learning and knowledge flows," *Academy of Management Journal*, 2001,44(4), 661-681.

Senge P.M. (1994) "Building learning oganisations. Costin, H. editor. Readings in total quality managemen*"t.* (The Dryden press, Fort Worth, TX,). pp. 60-67

Shahin, A. & Sadeghbeigi A. (2010), "innovation management," First Edition, publications of SID, Isfahan Unit

Sinkula, J.M., Baker, W.E., & Noordewier, T. "A framework for market-based organizational learning: Linking values, knowledge, and behavior," *Journal of the Academy of Marketing Science*, 1997,25(4), 305-318.

Sitkin, S.B., Sutcliffe, K.M., & Schroeder, R.G. "Distinguishing control from learning in total quality management: A contingency perspective," *Academy of Management Review*, 1994,19(3), 537-564.

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

Sohal, A. and Morrison, M. (1995), "Is there a link between total quality management and learning organizations?", TQM Magazine, 7 (3), 41-4

Spekman, R.E., Kamauff, J.W., & Myhr, N. "An empirical investigation into supply chain management: A perspective on partnership," *International Journal of Physical Distribution and Logistics*, 1998,28(8), 630-650.

Tang, H. K. (1998). "An integrative model of innovation in organizations". Technovation, 18(5), 297309.

Uzzi, B. & Gillespie, J.J. "Knowledge spillover in coporate financing networks: Embeddedness and the firm's debt performance," *Strategic Management Journal*, 2002,23, 595-618.

Wang, Y.L, Ellinger, A.D. (2008). Organizational Learning and Innovation Performance: A Review of the Literature and the Development of a Conceptual Framework andResearch Hypotheses. Human Resource Development International Research Conference in the Americas (Panama City, FL, Feb 20-24, 2008).

West, P. & Burnes, B. "Applying organizational learning: Lessons from the automotive industry," *International Journal of Operations & Production Management*, 2000,20(10), 1236-1251.

Zahra, S.A. & George, G. "Absorptive capacity: A review, reconceptualization, and extension," *Academy of Management Review*, 2002,27(2), 185-203.