

Recognizing the Innovation Capacity of Kerman's Industrial Firms

Samaneh Darbandi^{1*}, Alireza Naderi²

¹Department of MBA, Shahid Bahonar University of Kerman, Iran

²Faculty of Management, Shahid Bahonar University of Kerman, Iran

*Corresponding Author E-mail: samaneh_db@yahoo.com

Received: 24 October 2018, Revised: 05 December 2018, Accepted: 20 December 2018

ABSTRACT

Small industrial firms have proper innovation abilities due to potential changes. In this paper, the innovation capacity of 107 active small enterprises located in industry towns and vicinal of Kerman city has been investigated and analyzed. The results of research indicate that the innovation capacity in small enterprises in statistical viewpoint has reverse relation with the debit to sell ratio and has no meaningful relation with annual expenditure in research and development (R&D) activities and employee's education level. In other hand, the relationship between the manager's education level and firm's innovation capacity are examined. Finally, based on the findings, have proposed some approaches to enhance the ability of SMEs to successfully design the innovation processes.

Keywords: Innovation Capacity, Small and Medium Enterprise, Industry Town, Kerman, Auditing.

Introduction

Nowadays, the issues like new technologies, customers' more information, new rival's entry to the market, decrease in goods' lifespan in the market and geopolitical instability as well as globalization of market are those problems most of the entities encounter with it. These entities, to cope with the destructive effects of such problems have to flourish their capabilities in the field of innovation and open new horizons in their field of activity. Indeed, use of the innovation capability and innovation has been known as a way by which the entities can enter into competition and sustain in the market. In the business world,

evaluation of objectives and the processes to achieve those objectives and then getting assured of the proper performance are all essential. Our aim in this paper is that innovation capacity can also be a process of evaluation and assessment, we model

This paper aims to model the innovation capacity as a process which can be evaluated and measured so that evolution, development, strengths and weaknesses of its constituent components can be identified in the end. Innovation is usually first considered "successful exploitation of new ideas". Successful exploitation of innovation leads to

business improvement, continuing survival and improving the profitability. Innovation is not mainly limited to innovation of products and processes.

The most important innovations for an organization can be the very notion of organizational innovation which leads to the change in the methods in doing the tasks and improving the business processes. In this regards, adoption of new management principles such as outsourcing, outsourcing collection, cooperation, decentralization and empowerment of employees can be assigned. In organizational perspective, a proper definition of innovation has been proposed by Luecke and Katz (2003) says, 'Innovation is generally understood as the introduction of a new thing or method; Innovation is the embodiment, combination or synthesis of knowledge in original, relevant, valued new products, processes or services.' small and medium enterprises are one the vital constituents of growth and development in the world economy where its importance has been recognized in economic growth at developed and developing countries (ION Lane, 2007). Such industries due to potential power of change and development are provided with innovative capabilities so that more than half of the innovative products are created by small and medium enterprises (Ghaffari Ashtiani. P. and Pirmohammad. Sh, 2008), so, measuring the innovation capacity in recognizing the essential infrastructures to develop the competitive empowerment at such enterprises can be applied. In spite of the fact that innovation is generally attributed as the engine of development and growth in an entity, most of the firms are totally unaware of their capabilities on the innovation. In this paper, the innovation capacity of 107 active small and medium enterprises located in

industry towns and vicinal of Kerman city has been investigated and analyzed.

Problem Statement

Due to small and medium enterprises' capabilities in changing conditions to pass through the economic crises, their ability in innovation as well as role of these enterprises in industrial sustainable development, it is essential to measure their innovation in order to provide approaches for getting the optimum results, i.e. the improvement. This paper mainly aims to achieve the approaches to improve and develop the innovation level in small and medium enterprises and then find directions to pass the trajectory to develop new enterprises such that a high innovation level assigned to them.

Research Hypotheses

Level of innovation in small industries is associated with the ratio of company sales. The level of innovation in small industries is associated with annual expenditures on research and development.

The education level of personnel is associated with the company's level of innovation.

Management education is associated with company's level of innovation.

There is no difference in innovation level of small industries located in the industrial towns and small industries located in areas.

The level of innovation is not associated with Field of small industries

Research Background

Nature of innovation: OECD (2001) has defined innovation including all the scientific, technical, commercial and financial steps, necessary for the successful development and marketing of new products or improved products, use of

processes or new equipment or introducing a new approach to social service. Research and development are those steps mentioned above (Nelly, 2009). A firm's capacity for innovation is the firm's potential to generate innovative output, which is a function of the firm's resources and capabilities letting the entity to recognize and exploit the opportunities (Barney, 1986, Teece and Pisano, 1994). Two perspectives on innovation at organizations proposed in the innovation management literature:

Closed innovation: based upon the closed innovation, a company should control the creation and management of ideas. In a plain language, the companies create their ideas, conduct their research and develop them to transform their ideas to new products whereby such products would be generated and then distributed, for those services have to be provided and then investing on them would come to realize. Closed innovation is conveyed as a type of innovation where it is used only in the same company which this idea has been appeared (Hankel, 2006).

Open innovation is a term promoted by Henry Chesbrough, a professor and executive director at the Center for Open Innovation at the University of California, Berkeley, in his book *Open Innovation: The new imperative for creating and profiting from technology*, though the idea and discussion about some consequences. The concept is related to user innovation, cumulative innovation, know-how trading, mass innovation and distributed innovation. "Open innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology". Alternatively, it is "innovating with partners by sharing risk and sharing reward." The boundaries

between a firm and its environment have become more permeable; innovations can easily transfer inward and outward (Highland, 2005). The central idea behind open innovation is that, in a world of widely distributed knowledge, companies cannot afford to rely entirely on their own research, but should instead buy or license processes or inventions (i.e. patents) from other companies. In addition, internal inventions not being used in a firm's business should be taken outside the company.

Wycoff, Joyce in a study entitled "The "Big 10" Innovations Killers: How to Keep Your Innovation System Alive and Well", Stated it is often difficult for organizations to foster innovation among their employees. Among the reasons for innovation failure are: not creating a culture that supports innovation, not getting buy-in and ownership from business unit managers, not having a widely understood process, not allocating resources to the process, not tying projects to company strategy, not spending enough time and energy on the fuzzy front end, not building sufficient diversity into the process, not developing criteria and metrics in advance, not training and coaching innovation systems, and not having an idea management system. What is needed is a framework for a straightforward approach to stimulating creativity and innovation on a daily basis. Innovation DNA provides such a framework through seven operational elements: challenge, customer focus, creativity, communication, collaboration, completion, contemplation, culture, and context.

Erdogan (2012) in a research entitled "Innovative Capacity Determinants: An Empirical Study of Turkish Firms", presented an empirical examination of the determinants of innovative capacity of

Turkish firms. The sample consists of 215 domestically-owned firms and is confined to the period of 2005-2008. Innovative capacity is measured with patent and trademark applications. The results show that patent intensity is not affected by financial performance, firm growth and value-added productivity. Trademark intensity is also not affected by financial performance and firm growth. Larger and younger domestically-owned firms are more patent-intensive in Turkey. On the other hand, smaller and older firms are more trademark-intensive. Less capital-intensive firms have more propensity to innovate. In addition, exporting increases patent intensity even though it decreases trademark intensity. Fakhrian has examined the relationship between innovation and creativity of Staff experts regarding organizational factors. He has recognized the factors influencing creativity and innovation and proposed a variety of approaches to enhance the level of innovation and creativity among the experts (Fakhrian, 2002). Kiani has measured the level of capability and infrastructure for innovation and technology in Large format Industrial Saipa(Kiani, 1998). Jahangard has proposed a framework to measure the technological innovation throughout the firms (Jahangard, 2003). Analysis of Search strategy of innovation in 39 industrial firms in Iran indicates that more than half of the entities have entered into a relatively poor relationship with academic entities where the unit of research and development and a percentage of sale assigned to research activities have not led to making relationship and contact with academic entities (Abbasi and Haji Hosseini, 2009).

Abbasi (2011) has proposed a model "Closed implementation of an innovation audit (Secure)" aimed at determining the

level of organizational innovation capacity regarding the major constituents of innovation management. The capacity meant the extent of capability by which an entity can support innovation activities with regard to the culture and other conditions. Innovation capacity audit specifies to what extent the strategies, processes, communications, culture and values of an entity match with the innovative purposes. In general, innovation is attributed to a complex, nonlinear and interactive process which includes the features as following:

Dependence of synergy: innovation is the final result of the successful combination of innovative ideas and effective participation in expert groups of the organization.

Entry of innovative ideas from different sources.

Screening inventions or discoveries does not indicate the success.

There is not something as relative success where only success and failure can be conveyed in the field of innovative activity.

The ultimate success of innovations means influencing markets.

Innovation must be attained at the time that is realistically determined.

Innovation requires intensive experiments

The key factors in organizations' innovation capacity: Innovation like other business functions is a managerial process requires to applying tools, principles and specific rules (Davila *et al.*, 2006). A wide range of activities associated to enhancing the organizations' innovation capacity has focused on improving processes, strategies and organizational structures in order to deliver products and providing new services (Tim Jones, 2002). The results of previous studies show that the variables of

research costs, relation with research and development units and so forth are those important indicators of innovation activities at entities, mentioning that the greater these are, then the more innovation capacity in network relations with the company would be (Dadashpoor *et al.*, 2012). Since the innovation is assumed as a process, it can be then controlled. On the other hand, emerging the innovation requires for innovation culture because if culture might not approve the innovation, then failure would appear. Innovation may or may not be the key to success for your overall business strategy; you have to determine the types and amounts of innovation needed to support the business strategy—and more is not necessarily better. Innovation is essential for business survival in highly competitive markets where it is increasingly difficult to differentiate products and services. A key challenge in innovation is managing the balance

between process and product innovations. Process innovations can enhance shareholder satisfaction by improving efficiencies, whereas product innovations can develop customer satisfaction. However, the latter may occur at the risk of expensive R&D which can erode shareholder returns. The process of learning and updated training can assure getting proper consequences for the innovative teams. Innovation competence by the passage of time and while the person works out with the real scenarios specifies and coaching the vital constituent which specifies through this competence. Further, entry of a system to adapt the ideas and engage individuals into executive processes or in other words ideas management system are vital constituents at organization. A schematic of innovation process in industrial enterprises has been proposed; refer to figure 1 for this.

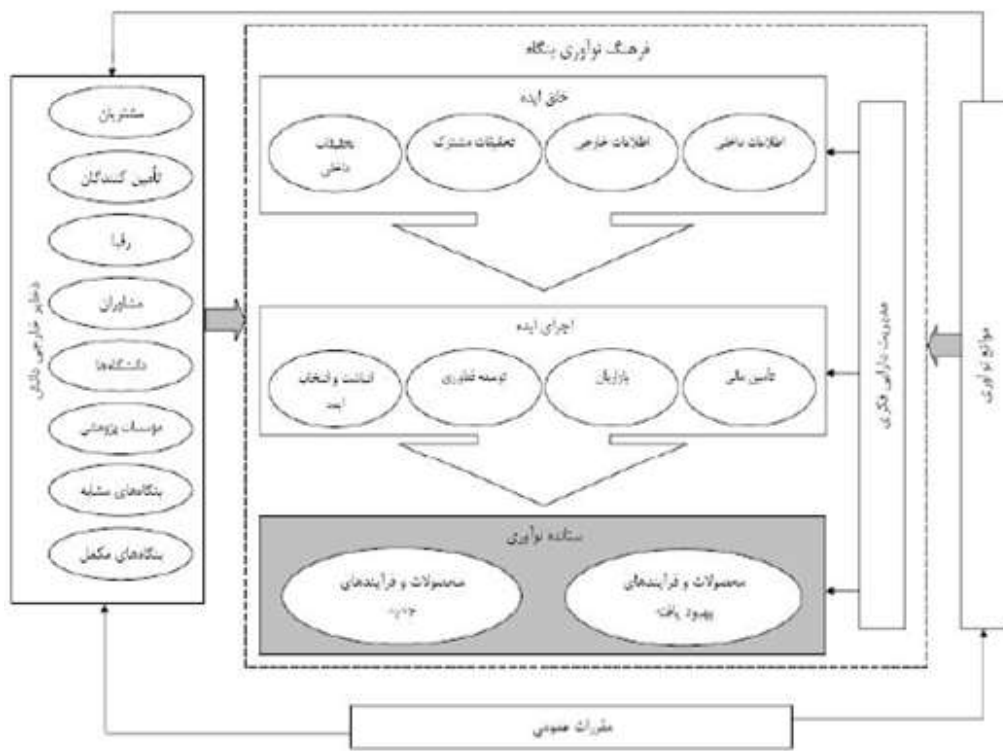


Figure 1. Innovation process

Research Methodology

Research process

This paper mainly aims to achieve the approaches to improve and develop the innovation level in small and medium enterprises and then find directions to pass the trajectory to develop new enterprises such that a high innovation level assigned to them. Based on the aim of this paper, the present paper is of applied type of research where it is such a descriptive research regarding its nature and method. To determine the level of innovation capacity at accepted firms, closed model of innovation implementation audit has been used to collect and analyze data (Abasi, 2012). Closed implementation of an innovation audit (Secure) is a self-evaluation tool of innovation designed based on major constituents of innovation management. This audit model can be used to define the organization's behavioral pattern associated to innovation management. The five-key constituents of this model include: Corporate Innovation Strategy,

Table 1. Statistical sampling of the enterprises in terms of industrial field

Industrial field	Frequency	Percentage	Valid percentage	Compressibility percent
Chemical Industry	16	15	15	15
Electrical and electronics	5	5	5	20
Textile Industry	6	6	6	25
Cellulose industry	2	2	2	27
Food Industry	20	19	19	46
Metal Industry	30	28	28	74
Non-Metal Industry	28	26	26	100
Total	107	100	100	

The Method to Implement the Questionnaire

The most prevailing way of response to evaluate the research variables is the way of response as grading the scales; Likert rating scale among such scales is the most well-known scale. In this paper, ten-option scale has been used to give response to the

Process of innovation, organizational innovation structure, Learning Innovation, Innovation Community. The questionnaire has been used as a tool to collect data where small and medium enterprises managers' views in industry towns and vicinal of Kerman city were asked for the purpose of data collection.

Statistical Population and Sample Size

The statistical population of this paper includes small and medium enterprises managers in industry towns and vicinal of Kerman city. According to data from enterprises working at industry towns and vicinal of Kerman city, only 107 active small and medium enterprises were working at industry towns and vicinal of Kerman city. In this paper, by having not large statistical population, specifying sampling was ignored and the total statistical population were examined (Table 1). Roughly 69% of the enterprises studied in industrial town (No 1), 20% in industrial town (No 2), and the rest 11% in surrounding were located.

questions. The respondent defines his agreement as a value in range from 1 to 10, i.e. 1 and 10 means it is not true and it true, respectively. This questionnaire has been designed in two parts. In first part, the questions associated to investigation of hypotheses have been provided, and in second part each of five dimensions of

innovation has been investigated with 10 ten-option questions (Abbasi, 2012). To determine the validity of questionnaire, Mathematical expectation method has been used. The validity of questionnaire is higher than 80% so that the validity of questionnaire can be confirmed. The reliability of questionnaire has been measured using Cronbach's alpha method. Cronbach's alpha obtained is equal to 95.8%. Statistics associated to the entire questions show that all the questions are roughly contributed in the reliability of questionnaire.

The Method and Instruments for Data Analysis

The software used for data analysis obtained of questionnaire is SPSS-version 20. To analyze data and determine the correlation among the variables, the statistical techniques including Kendall test, Spearman and Pearson tests.

Research Findings

Since, census has been conducted in this paper, it has to consider that the results from the correlation among variables with the presumption of having confidence level for the data in table 1, is definite and it is in a range obtained in different tests. Significant level of such correlations associates to a situation at which the sample group tested is higher intending to extrapolate the results of tests to the population. Hence, while the population is taken as the sample group, so regarding the significance level of tests, the results from tests can be extrapolated to greater population. While talking about the significance level, this meaning can be considered then.

Innovation Capacity Level at Enterprises

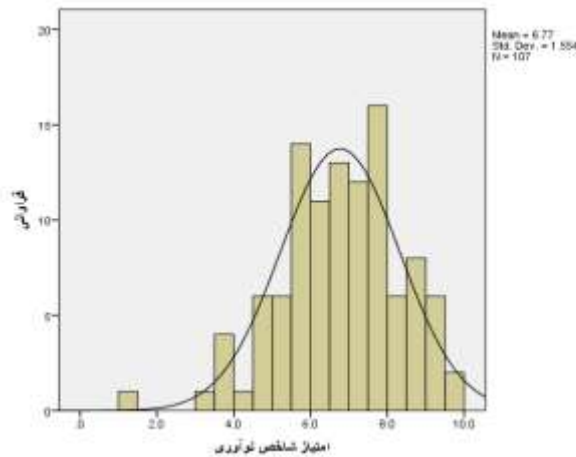
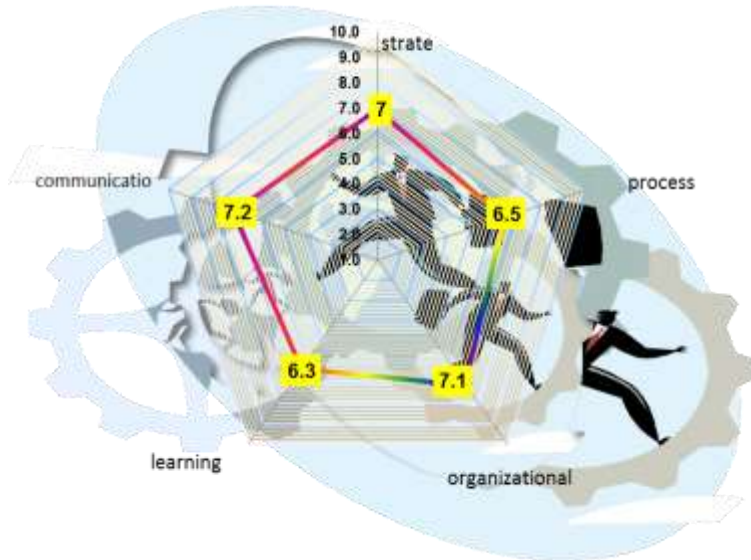
To what extent is the Innovation capacity level at small and medium enterprises in Kerman city? In this paper, each of five components of innovation capacity with 10 indicators were evaluated by experts working at small and medium enterprises and score of each component was obtained of the mean of 10 indicators. According to the data from the questionnaires, Innovation capacity level of the enterprises is reported as follows in each of five-option components at 1-10 scales (Figure 2). Innovation capacity level in the strategy component in small and medium enterprises in Kerman city is reported as 7 where it is far away about 30% of the ideal level. On the other hand, the process component in small and medium enterprises in Kerman city is reported as 6.5 where it is far away about 35% of the ideal level. Innovation capacity level in the strategy component in small and medium enterprises in Kerman city regarding organizing component is reported as 7.1 at 1-10 scale where it is far away about 29% of the ideal level. Innovation capacity level in small and medium enterprises in Kerman city regarding learning component is reported as 6.3 at 1-10 scale where it is far away about 37% of the ideal level. Finally, Innovation capacity level in small and medium enterprises in Kerman city regarding communication component is reported as 7.2 at 1-10 scale where it is far away about 28% of the ideal level. To sum up, the mean of different components of innovation at small and medium enterprises in Kerman city is reported equal to 6.77 where it is far away about 32% of the ideal level (Figure 3).

The Results of Hypotheses

The correlation between Levels of innovation in small industries and the ratio of company sales

According to The Pearson test, the correlation coefficient between Levels of innovation in small industries and the

ratio of company sales is reported equal as -0.493.



Score of innovation indicator

Figure 3. The diagram of the frequency distribution for innovation capacity at Kerman's enterprises

As a result, it can say that there is an inverse relationship between these two variables. On the other hand, the significance level (0.003) comparing to 0.05 is a small value, so with regard to the assumption assigned as this statistical

population can be a good sample of a greater population, one can say that in those small enterprises where the ratio of company sales is low, then the innovation capacity level is higher vice versa.

Table 2. The correlation between Levels of innovation in small industries and the ratio of company sales

		The ratio of company sales	
Levels of innovation	Correlation coefficient	Significance level	Frequency
	-0.493	0.003	35

The correlation between the level of innovation in small industries and annual expenditures on research and development. According to The Pearson test, the correlation coefficient between these two variables is negligible. It cannot say that there is a significant relationship between the level of innovation in small industries and annual expenditures on research and development. On the other

hand, the significance level (0.249) comparing to 0.05 is a big value, so with regard to the assumption assigned as this statistical population can be a good sample of a greater population, one can say that no evidence show the correlation between the level of innovation in small industries and annual expenditures on research and development.

Table 3. The correlation between the level of innovation in small industries and annual expenditures on research and development

The ratio of company sales			
Levels of innovation	Correlation coefficient -0.178	Significance level 0.249	Frequency 44

The correlation between the education level of personnel and the company's level of innovation. According to data, highest level of education associates to diploma and bachelor. To examine the correlation between the education level of personnel and the company's level of innovation means go through the point that whether

as the higher the education level of personnel is, the level of innovation increases and vice versa. For this, The correlation between the education level of personnel including bachelor degree, diploma and associate degree and the company's level of innovation was examined.

Table 4. The correlation between the education level of personnel and the company's level of innovation

The ratio of company sales			
Levels of innovation	Correlation coefficient -0.12	Significance level 0.216	Frequency 107

According to The Pearson test, the correlation coefficient (0.12) between these two variables is negligible. It cannot say that there is a significant relationship between the education level of personnel and the company's level of innovation. On the other hand, the significance level (0.21) comparing to 0.05 is a big value, so with regard to the assumption assigned as this statistical population can be a good sample of a greater population, one can say that no evidence show the correlation

between the education level of personnel and the company's level of innovation.

The correlation between Management education and company's level of innovation.

Kendall and Spearman correlation coefficient between Management education and company's level of innovation has been reported 0.213 and 0.269, respectively. Hence, one can say that there is a poor relationship between these two variables. On the other hand, as

observed, the significance level (0.004) comparing to 0.05 is a small value, so with regard to the assumption assigned as this statistical population can be a good sample

of a greater population, one can say that a positive significant correlation exists between Management education and company's level of innovation.

Table 5. The correlation between Management education and company's level of innovation

Management education status						
level of innovation	Kendall correlation			Spearman correlation		
	Correlation coefficient	Significance	Frequency	Correlation coefficient	Significance	Frequency
	0.213	0.004	107	0.269	0.004	107

Difference in innovation level of small industries located in the industrial towns and small industries located in areas. As Kendall and Spearman correlation coefficient between area of working and innovation level has been reported as 0.064 and 0.083, respectively. It can say that there is no relationship between these two variables. On the other hand, the

significance level 0.383 and 0.391 comparing to 0.05 is a big value, so with regard to the assumption assigned as this statistical population can be a good sample of a greater population, one can say that no difference was seen in innovation level of small industries located in the industrial towns and small industries located in areas.

Table 6. The correlation between innovation level of small industries located in the industrial towns and small industries located in areas

Management education status						
level of innovation	Kendall correlation			Spearman correlation		
	Correlation coefficient	Significance	Frequency	Correlation coefficient	Significance	Frequency
	-0.083	0.383	107	-0.064	0.391	107

The correlation between the level of innovation and Field of small industries As shown in table 1, the enterprises in this research have been categorized in seven classes as Chemical Industry, Electrical and electronics, Textile Industry, Cellulose industry, Food Industry, Metal Industry and Non-Metal Industry. Roughly half of the firms studied here are working in the field of mental and non-mental field. 19% of whom work at food industry and 15% of the rest work at Electrical and electronics. As Kendall and Spearman correlation coefficient between innovation level of small industries located in the industrial towns and small industries located in areas has been reported as 0.218 and

0.303, respectively. It can say that there is no relationship between these two variables. On the other hand, the significance level 0.001 and 0.02 comparing to 0.05 is a small value, so with regard to the assumption assigned as this statistical population can be a good sample of a greater population, one can say that. The correlation between the level of innovation and Field of small industries exists. The order of innovation based on the area of activity includes: Chemical Industry, Textile Industry, Electrical and electronics, Cellulose industry, Food Industry, Metal Industry and Non-Metal Industry.

Table 7. The correlation between the level of innovation and Field of small industries

level of innovation	Industrial field					
	Correlation coefficient	Kendall correlation Significance	Frequency	Spearman correlation Coefficient	Significance	Frequency
	0.218	0.001	107	0.218	0.02	107

Conclusion and Suggestions

The ability of organizations and firms to innovate is the main component of profitability, growth and sustainable competitive advantage. In general, Analysis and assessment of innovation in organizations are taken into account from two perspectives:

a- Measuring Outcomes and Innovation: Adopting such an approach requires a system with finance, accounting, information and so forth infrastructure.

b- Evaluation of Innovation Capacity: this means determining the capability and preparation of an entity to innovate using the Technology innovation audit.

The most typical findings of the audit and approaches to improve the innovation capacity level at enterprises include:

Level of innovation in small industries has an inverse relationship with the ratio of company sales. What can be deduced in this regards is that the more debts increase, the managers' thoughts would be preoccupied with this issue forgetting to address the innovation topic and enhancing it in different dimensions like allocating necessary validity to this topic.

There is no significant relationship between the level of innovation in small industries and annual expenditures on research and development. Research and development together with innovation is not necessarily an issue. Innovation is an organizational wide activity which is not the same as the research and development management. The reasons as follows cause

no significant relationship appears between the level of innovation in small industries and annual expenditures on research and development:

Still, many small and medium industries cannot be found with R & D unit and even the enterprises found with a unit of this name, their activity has not been defined clearly.

Selection of projects (research) proposed with regard to production department, quality control, marketing and sales are done. These units only while are used that find fitted in research and development part which this is totally against with the innovation management principles in the organization.

Driven investment decisions regarding Research and development mainly focused on reducing taxes on profits. In different countries worldwide, to develop research activities, Tax Credits to Leverage get used and enterprises use investing on research and development to escape from paying taxes. Hence, Part of the investment in the formal sector and the rest in unrealistic sector is placed. Hence, in this paper with increase of expenditures in research and development, no improvement in enterprises' innovation capacity observed.

Management education is associated with company's level of innovation. This finding is rational due to the reasons brought as follows: it is obvious that managers play a key role in distributing innovation and culture of creativity within organization. Individuals with higher

education are provided with more information and breadth of vision, so while addressing this issue with wider theoretical vision, failures needed for innovative measures does not make them hopeless. As a result, they welcome the creative thoughts, persuade new thoughts and expand the opportunities appeared within organization to develop innovative products and services. Networking, exchange of ideas and knowledge are known fundamental to come to realize the innovation. The employees would be encouraged for bringing about innovation where the principles which support and encourage innovation are created. In this regards, so many efforts are made to get commitment and support the entire functioning of organization from innovation. Hence, clear systems and measures are created to investigate innovation.

The education level of personnel is not associated with the company's level of innovation. It seems the reason for this is that innovation and creativity just not required for having education and this relates to various factors which can be achieved through different ways. Employees might not play important role in creativity and innovation within organizations due to lack of an efficient process. Hence, the individual characteristics in the field of improving innovation capacity would not found with important effect.

There is no difference in innovation level of small industries located in the industrial towns and small industries located in areas. This finding relates to the fact that different policies can increase or decrease innovation and creativity within organization particularly external policies and the policies applied by company

within industrial towns are not different in different places.

The level of innovation is associated with Field of small industries. A difference at innovation among different enterprises can be influenced of different factors. Some of the products and services by the passage of time do not need a large diversity, having a relative stability where on the innovation gets faded. As a result diversity in supply of several products would be found with changing market. By the passage of time with changing products and services, the enterprises unavoidably find the only solution by creating an environment with utmost innovation and creativity to meet the needs of market, otherwise difficulties would be found. The other issue can be influenced of type and field of managers' education. Managers at entities act in fields which are related to their education level where different education fields can provided the situation with difference in persuading creativity.

Finally, it is fundamental to evaluate the innovation capacity level at enterprises and also other industrial enterprises in other geographical areas and provide comparative analysis of the results.

References

Abbasi, F. and Haji Hosseini, H. (2009). Analyzing the strategies of industrial firms seeking innovation in interaction with academic institutions, *Journal of Research and Planning in Higher Education*, No. 51, Spring 1388, 120-99.

Abbasi, F. (2012). Depending on the implementation of an innovation audit (safe), scientific research and industrial organizations in Iran, version 1.3.

Barney, J.B. (1986). Strategic Factors Markets: Expectations, Luck and Business

Strategy, Management, Science, 32, 1231-1241.

Chesbrough Henry W. (2003). The Era of Open Innovation, spring, 44 (3), 35-41.

Dadashpvr H. and Taqi daughter, H. (2012). Analysis of the role and effect relationship between firm resources and capabilities in promoting innovation in the Tabriz metropolitan region. Science and Technology Policy.

Erdogan, A.I. (2012). Innovative Capacity Determinants: An Empirical Study of Turkish Firms, *Int. Business Res.*, 5(9).

Fakhri, S. *et al.*, (2002). Investigation of the relationship between creativity and innovation, organizational factors and staff experts, Tehran University, Faculty of Management.

Ghaffari Ashtiani. P. and Pyrmhmd. Dew (2008). Organizational innovation in small and medium sized companies manage Magazine, 199.

Henkel J. (2006). Selective revealing in open innovation process: the case of embedded Linux, *Research Policy*, 935-969.

Hobday M. (2005). Firm-level Innovation Models: Perspectives on Research in Developed and Developing Countries Technology Analysis & Strategic Management, 17(2), 121-146.

Hyland P. (2004). Innovation and enhancement of enterprise capabilities A survey of assessment approaches, Journal article.

Jan Inge J. (2002). Factors that promote innovation in shipping companies, *Maritime Policy & Management*, 29(2), 119-133.

J., N. (2003). providing a framework for measuring technological innovation at the firm level - Master's thesis (unpublished), Tarbiat Modarres University, Faculty of Engineering, Department of Industrial Engineering.

Keogh W. (2007). Implementing innovation management in manufacturing SMEs *Journal of Small Business and Enterprise Development*, 14 (3), 385-403.

Kiani, M. and Mohammad Z. (1999). Evaluation of the ability of the company's innovation and technology infrastructure and industrial molds Saipa, Iran University of Science and Technology, Department of Industrial Engineering.

Luecke, R. and Ralph K. (2003). Managing creativity and innovation. Boston, MA: Harvard Business School Press, ISBN 1-59139-112-1.

Malekinejad, A. (2006). Analysis of the role of small and medium industries in the economic development strategy of despair (8).

McAdam (2004). Barriers to innovation within small firms in a peripheral location, *Int. J. Entrepreneurial Behav. Res.*, ISSN: 1355-2554.

Neely, A.D. (2009). Exploring the Financial Consequences of the Servitization of Manufacturing, *Operations Management Research*, 2 (1), 103-118.

Newsun and Taryana (1992). Industrial innovation management concepts and assignments, translated A. Maleki Far, Vahid Vahidi .

OECD (1981). The Measurement of Scientific and Technical Activities, Paris, OECD.

Pohlman M. (2005). The development of innovation systems and the art of innovation management- strategy, control and the culture of innovation, *Technology Analysis & strategic management*.

Porter M.E, Stern Scott (2001). *Innovation: location, matters*, Sloan management Review

Teece, D.J. and Pisano, G. (1994). The Dynamic Capabilities of Firms: An Introduction", *Industrial and Corporate Change*, 3 (3), 537-556.

Wim van haver B. (2005). Open innovation value consellation, pruid Tenth Anniversary summer conference

Wycoff J. (2003). The big 10 innovation killers, the journal for quality & participation.

Yeh-Yun Lin C., Yi-Ching Chen M. (2007). Does innovation lead to performance? An empirical study of SMEs in Taiwan, *Journal of Management Research News*.

How to cite this article: Samaneh Darbandi, Alireza Naderi, Recognizing the Innovation Capacity of Kerman's Industrial Firms. *International Journal of Advanced Studies in Humanities and Social Science*, 2018, 7(4), 412-425.
http://www.ijashssjournal.com/article_84103.html