Study of the Entrepreneurship in Universities as Learning Organization Based on Senge Model

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Abstract

Learning organization and entrepreneurship are the most important issues that are focused on different themes in management. The purpose of present research was to study the relationship between learning organization elements and entrepreneurship among academic faculty members of the West Azarbaijan State Universities. The research method was descriptive-survey. Research instruments were two questionnaires. The first one, learning organization elements' questionnaire, which was built by Park (2008), and the second survey questionnaire collected information on the entrepreneurship that was built by Kordnaiej et al. (2005). Both questionnaires validities were confirmed by Cronbach's alpha. The research results indicated that there was a positive and significant relationship between personal mastery, mental models, shared vision, team learning, the systems thinking, and the entrepreneurship. Along with these findings, some key practical suggestions are proposed: Creating a learning atmosphere and a safe environment for creative scientific competition, considering the issues and their various applications in relationship with each other and systematically that causes a deep relationship between the university academic faculty members which leads to the entrepreneurship.

Keywords: Entrepreneurship, Learning organization, Learning organization elements, Academic faculty members

1. Introduction

The rapid changes are the evident feature of the 21st century that affect of all the fields. Organizations are operating in an environment of complexity and uncertainty where the only constant is change. The environment is characterized by changes in workforce competency, high customer expectation, greater competitive pressures, technological advancements and globalization. This has altered the world of work so dramatically that old "dinosaur-like" organizations are no longer able to respond to these changes. To handle these new challenges organizations must keep pace with this rapid change otherwise they are bound to die. They have to remain flexible and continually improve to gain competitive advantage and must be able to adapt and strive to take the lead otherwise their survival will be at stake. Therefore, it is necessary that the rate of learning should be greater or equal

to the rate of change outside the organization, in order to the organization to be able to survive the turbulence. Organizations must have the potential to learn and the "commitment to learning" as an organization can transform itself only by learning something new (Singh, 2010). In order to catch up with the upswing growth of knowledge and information, the establishment of learning organization, in which the main purpose is learning, shows up. Learning organization is a kind of organization in which education and learning have become customized. Learning organization learns in the passage of the time, changes, transforms its functions, and reforms. In other words, learning organization is a type of organization in which everyone is creative and entrepreneur. In effect, the creative and entrepreneur talents flourish in desirable environments; therefore, one of the necessities and dominant ways of causing entrepreneurship is to establish an active, talented, and learning organization (Kontoghiorghes & Hansen, 2004). In forthcoming discussion, the concept of learning organization, entrepreneurship, and finally the relationship between learning organization and entrepreneurship have been dealt with.

2. Literature Review

Learning organization is a fussy term in literature of management and organization, psychology, and human development. Senior managers in many organizations believe that organizational learning method is a main index for effectiveness and its capacity for growth and innovation. Perhaps, one reason for paying attention to learning organization is attention to concepts such as total quality management (TQM) and reengineering which emerged in 1980 and helped this idea. Burgoyne (1995) believed that organizations because of their limited capacity for facing crisis, are vulnerable and since in literature of development and education the emphasis is on individual learning, the idea of learning organization tends toward a change in attitude for organizational growth and development. This idea provides a change of attitude toward collective learning. According to Peter Senge (1990), a pioneer in learning organization theory, organization is a place where new patterns and comprehensive thinking fosters, a place where collective tendencies and wills become free and people continuously learn how to learn together. In another words, in learning organization, the emphasis is on learning in individualized, team, and organizational levels.

Universities as research - educational organizations have different tasks and functions such as teaching, research, production of knowledge, new technology, social change strategies, and actively facing with global transformations. Universities success in doing their functions requires them to improve continuously quality of their processes and use more effective approaches and methods. There have been some studies in last decade regarding use of learning organization theory in educational organizations especially higher education institutions. So, in this research, researchers have tried to study about this subject (Yarmohammadzadeh, Rahimi, & Siadat, 2006).

Learning organization wants learning not for its own sake, but for improvement and proliferation. Peter Senge and his colleagues at the Massachusetts Institute of Technology have stated that through the application of the systems thinking, one can structuralize the organization's learning process, and finally the learning organization itself (Marquardt, 2002). According to Senge, ability of learning is the basis of human creativity. In order to prove his statement, he invoked on this belief that no one teaches the children the basic actions they need, but they learn walking, talking, etc. by curiosity (instinct), and the examination power they have within themselves. Senge has mentioned five dimensions for the establishment of learning organization, and he has discussed all these dimensions as one connected unit. The definition of each dimension is the following:

Personal mastery: Each person should be expert in one or in different fields (Yang; Watkins & Marsick, 2004).

Mental models: In a general consideration, mental models are the expression of a person's thought as well as action. The majority of the best ideas that include attitudes and innovations in organizations, due to the opposition with the prevailing mental models, never get the opportunity of changing to a new project. The leaders of learning organization should learn the skill to examine mental models without exciting defensive reflections (Ortenbald, 2001).

Shared vision: Vision is a clear mental view, and often a goal that a person wants to achieve. Vision means having a perspective and an ideal image. In other words, vision is a mental understanding of the future that a person or an organization desires to create, or prepare the conditions for its achievement in a time span (Ortenbald, 2002).

Team learning: Learning is a process during which the capability of the group members increases in a way that its resulting outcomes would be desirable to everyone (Yang; Watkins & Marsick, 2004).

Systems thinking: It is a way of thinking in which the superiority of the whole to the elements is admitted. Nowadays, in order to understand the source and the solutions for new issues, linear and mechanism thinking should be replaced by nonlinear and live thinking that usually is called the systems thinking. The systems thinking reveal the most subtle aspect of a learning organization (Senge, 2009).

Organizational learning can be defined as a conscious, purposeful, collaborative, active, constant, and developing process that has a rapid feedback, effective in individual, group, and organizational levels. It operates under the influence of perceptual processes and on the basis of cultural resources, and its goal is the success of individuals as well as organizations. According to the following diagram, the organization's inputs are the conscious learning activities, and its outputs are the changes that have been made due to the preparation of new concepts which cause learning (Loermans, 2002).

3. Entrepreneurship

The term *entrepreneurship* can be traced back to the twelfth century, rooted in the French verb *entreprendre* which means to do something differently, and the German word *unternehmen*, which means "to *undertake*". Its noun form *entreprendeur* was documented in the fourteenth century. The modern term *entrepreneur* was used during the eighteenth century in the writings of Richard Cantillion (Fox, 2005).

Entrepreneurship is a multi-dimensional phenomenon with multiple analysis level that has been created as an interdisciplinary field. The interdisciplinary substance of the field means that there are different procedures such as economics, sociology, financial, history, psychology, anthropology, biology, physics, and etc. (Granovetter 1995; Hornaday, 1992). Furthermore, it equals the generation of various attitudes in theories and applications for this new domain (Douglas & Shepherd, 2000). In a general definition of entrepreneurship, and from an economic perspective, the emphasis is on a new business; however, in specific definitions, entrepreneurship does not end in the development of materialistic and economic values or business; moreover its goals are not necessarily limited to creating job opportunities (Hornaday, 1971), but providing the improvement of the condition and increase of efficiency, entrepreneurship will be occurred. In this case, creating and recognizing values develop new meanings in relation to the definition of entrepreneurship; therefore, in the new definitions as well as in this study, entrepreneurship is the process of recognizing, persisting, and exploiting the distinguished opportunities in order to maximize their resulting value (Hornaday, 1992). Entrepreneurship could have a positive and profitable effect, which one can state that it creates job opportunities and improves living quality, it accelerates the income systematically, it relaxes the social anxiety, and it causes the exploitation of resources and activation of them for great local efficiency. It also causes the reduction of official bureaucracy, and leads to innovation, transformation; in addition, it stimulates and encourages rivalry (Brazeal & Herbert, 1999). Concerning entrepreneurial process, an entrepreneur is a person who has new and innovative ideas, and through the establishment process together with creating a rational business, takes risk and produces new products or services (Alvarez & Busenitz, 2001).

In the present study entrepreneurship is manifested in entrepreneurial activities as well as in the perspectives of senior managers in organizations. These entrepreneur attempts include four key elements: executing new economic and entrepreneur activities, innovation, self-renovation, and finally effectiveness (Huber, 1991).

3.1 Linkage of the Unity of Entrepreneurship and Learning Organization

In order to clarify the purpose of studying entrepreneurship in relation to learning organizations, it is essential to describe the mechanisms of knowledge in a learning organization. What feeds learning organization is knowledge, and nutritional material of knowledge that enables the organization to grow. If the valuable knowledge deviates, the organization would be ready for failing; therefore, the capability of knowledge management should be the primary duty of all staff (Davidson, 1991). It is crystal clear that all types of knowledge are not valuable to the same extent. The levels of knowledge hierarchy are summarized in diagram 1.

According to the definitions of each level of the above spectrum, it is clear that the acquisition and application occurs on the level of knowledge, and the knowledge without commission cannot create anything. Knowledge has positive effect in the society and human life in case it is applied. The existence of a gap between knowing and applying does not lead to the value creation by knowledge; as a result, the knowledge that is not applied, does not grow and develop. For reducing the gap between knowledge and application, there is a need for entrepreneurship. Entrepreneurs make the application of knowledge possible by innovation, so the universities, as the producers of knowledge, not only should think about its application, but also should arrange the knowledge production priority based on the applicable uses and the society's demands. In other words, the knowledge production increases the potential of innovation; moreover, in order to change the existing potentials to economic values, there is a need for the entrepreneurship of the universities. The university entrepreneurship reduces the gap between knowledge and innovation; as a result, the gap between knowledge and application reduces too. Therefore, the entrepreneur's duty is to execute brilliant ideas, and make the existing knowledge applied (Hornaday, 1992). The diagram 2 indicates the above explanations.

Regarding the above discussion; Schein (1993) believes that the third type of learning is acquiring knowledge. In fact, learning is the process of increasing capability. Learning is related to the capability of creating something new

that one could not create beforehand. After all, learning is connected with application, not information (Marquardt, 2002). Marquardt states that the main subsystem of learning organization is certainly the learning element at individual, group, and organizational level (Yang; Watkins & Marsick, 2004), which has been shown in the lower part of the diagram. According to Garvin, learning organization is an organization that has the capability of creating, acquiring, and transferring knowledge; additionally, it regulates its behaviour in a way that it manifests knowledge and new perspectives (Marquardt, 2002). Marquardt (1996), in his book called 'Establishing Learning Organization', mentions that learning organization is the one that learns strongly and in group, and it changes itself permanently in a way that it can better collect, manage, and use the information with the organization's success in mind. Zuboff (1998), in his classic work called 'In the Intelligent Machine Era', writes that one of the main purposes of today's organization is to expand knowledge, the knowledge that it acquires, and in its nuclei is the concept of generation (Marquardt, 2002). Then, according to above- mentioned perspectives and definitions, the learning organization and entrepreneurship, as indicated in diagram 2, are parallel.

On the other hand, Senge (1990) also states that learning cannot be distinct from application, because application is the basis for evaluation. Lex Dilworth (1995) called applied learning as the DNA of learning organization. Applied learning includes working on real problems, concentrating on the acquired knowledge, and applying the solutions. The participants in applied learning programs understand that they should discover the new ways of solving problems, since the old methods are out of date and are insufficient; therefore, the members always invent new knowledge, and encourage innovation inside the organization. Learning organization is an organization in which each person is creative and innovative. In this organization, the members are encouraged to group discussions as well as discovery of new ideas and thoughts, and they foster innovation. According to Schumpeter and Drucker, innovation is specific to entrepreneurship (Granovetter, 1995), and it is one of the key actions in the process of entrepreneurship (Hornaday, 1992). David Boehm conceives learning new subjects as the necessary condition for creativity (Littunen, 2000); as a result, it can be stated that entrepreneurship is a function of the members of learning organization's entrepreneurship, i.e. the entrepreneurs themselves (Armstrong & Foley, 2003). Regarding this issue, Bravli Az Johnson (1969) states that it is people who give the entrepreneurship process energy; consequently, the careful study of each person's role, especially his psychic profile, is of extreme value. According to the above innovation are the turning points in learning organization and entrepreneurship. The world is moving toward economy and entrepreneurship and in fact, the modern organizations around the globe are developing very rapidly (Kuratko & Hodgetts, 2001), they need new methods and solutions to survive, and entrepreneurship has an effective role in this matter. The survival of the organizations, understanding and adjusting with the increasing changes demand a modern way of living and organizational structure in which learning has become an important and necessary procedure. Like individuals, organizations should adapt themselves more rapidly with changes, otherwise, they would extinct. In other words, not only learning causes the survival of the learning organization, but also it is responsible for the appearance of entrepreneurship. Entrepreneurship, through creativity and the manifestation of new ideas, helps learning organization to survive and flourish. In fact, learning organization and entrepreneurship have synergistic effect on each other, and they attempt for each other's development and evolution; therefore, it is expected that the entrepreneurs of the learning organization, especially universities, to be technologic entrepreneurs (Loermans, 2002). It is also estimated that the outcome of these collaborations to be promotion, success, profitability, powerfulness, responsibility, expansion, and getting a stable competence privilege on individual and organizational level (West and Burnes, 2000). On the other hand, nowadays, the authorities in management such as Michael Marquardt (2002) propound a new idea called the *learning organization generations*; consequently, if one names the past generations of the learning organization as the information-based, innovative, and knowledgeable, the new generation of the learning organization can be called as the entrepreneur and learning organization. In fact, not all of the organizations could be a learning organization, and likewise not all of the organizations could be entrepreneur as well. In addition, an organization, which is an entrepreneur, cannot remain entrepreneur forever, unless it is a learning one. Such an organization can only remain entrepreneur by way of discovering, persisting, and maximizing the value resulting from learning (Marquardt, 2002).

In addition to the above- mentioned inference, in stating the other reason for studying entrepreneurship in relation to the learning organization, this framework can be mentioned through explaining the concept of entrepreneurship, the entrepreneur takes features, output, and diverse activities as the agent of change and entrepreneurship process (Zampetakis, 2007). Therefore, presenting the framework and classification can reduce the ambiguities to some extent. In his book, 'Establishing learning organizations', Marquardt states that it is expected from the staff as capable learners to learn, to plan, to take action and risk as well as to solve the problems for their future competence (Marquardt, 2002). Moreover in his book, 'Essentials of learning organization', Marquardt states that the learning organization's staff are people who have the necessary skill for solving problems as well as the ability to recognize

and responsibility (Marquardt, 2002). Likewise, eager and capable employees are more creative and responsible in learning and application (Kuratko & Hodgetts, 2001).

According to Senge (1990), without having the information related to the organization's situation, the individuals would not trust in themselves for being responsible or for the emergence of their creative attempts (Yang, Watkins & Marsick, 2004). All the characteristics mentioned for the staff of the learning organization are the same as those mentioned for an entrepreneur, and this conclusion confirms diagram 1.

Shahhosseini (2010) in his 'Entrepreneurship and Entrepreneurship in Action' books, states the necessity of the presence of entrepreneurs at different institutions, such as universities and Ministry of Education clearly confirms the connection of entrepreneurship and the learning organizations. Regarding the emergence of entrepreneurship in learning organization, in relation to the present study and its site, the concept of the entrepreneur university gets more important naturally. Because of the above-mentioned reasons, the variables of entrepreneurship and learning organization have been addressed in this study.

4. Literature Review

Sharman (2005), in a study called 'Managers in learning organization' concluded that management in a learning organization is different from management in a traditional organization, since in these organizations the managers are teachers, designers, and principle-based. The main emphasis here is on new models of management, which are caused by an investigation of the traditional definitions of management; in addition, the collaborative effect in the establishment of these organizations was proved to be one of the learning organization's elements (Sharman, 2005). In the research 'Learning Organization and its dimensions as the Key Factors in the Companies' Activities', Davis (2005) indicated that those organizations, which direct their learning greatly, are more likely to apply what they have learned about the customers and the market for the organizational promotion and successful function. Hezar Jaribi (2003), in his investigation 'Entrepreneurship Learning Rate among Human science students in cultural and social publications of Tehran', indicated that there is a meaningful relationship between entrepreneurship and the promotion motivation, risk taking, and creativity training programs. In 'The Inspection of Entrepreneurship Capabilities among University Students of Isfahan University, Badri (2005) concluded that the entrepreneurship capabilities include autonomy, inner control, promotional motivation as well as creativity are above the mean, and risk taking is under the mean. There was no meaningful relationship between the entrepreneurship capabilities of Isfahan University's senior students in autonomy, inner control, creativity, promotional motivation and risk taking. There was no meaningful relationship between the entrepreneurship capabilities of those students going to entrepreneurship centers and other students of Isfahan University in autonomy, creativity, locus of control, promotional motivation, and risk taking. Lin (2004) conducted a research called 'The Investigation of the relationship between learning organization and progress of scientific faculty members in higher education' in which scientific faculty members realized the scientific progression of themselves and their organization in applying the principles of the learning organization. Buttler (1999), on the basis of two research results, concluded that those students who have participated in the training programs in order to acquire promotional motivation, try more in acquiring the appropriate information for mastery of subjects, going ahead of others, and getting encouraged regarding his function. He regards these findings resulting from the role of education in increasing the promotional motivation. As Minniti and Bygrave (2001) stated entrepreneurship is a process of learning, and a theory of entrepreneurship requires a theory of learning. Organizational learning is considered necessary for continued innovation and sustained entrepreneurial success. Slater and Narver (1995) mentioned that organizational learning occurs through stages of information acquisition, information dissemination, shared interpretation, focused experimentation, diffusion of experience, and knowledge restructuring. Gary and Gonsalves (2002) in their research which is nominated Organizational learning and entrepreneurship indicated that the findings provide strong and consistent support for the validity and usefulness of the concept of organizational learning in relation to entrepreneurial strategy.

5. Research Methods

The present study proposes to understand the relationship between the dimensions of learning organization and the entrepreneurship among scientific faculty members in universities. It was a survey-based research. The statistical population included all the members of the academic members of all the faculties in West Azardaijan State Universities. In this research, 460 individuals were chosen randomly as sample.

In order to collect data, two questionnaires of 'Learning organization' and 'Entrepreneurship' were used and the reliability was estimated to be 0.9 and 0.88 respectively. Cronbach's alpha was used to measure internal consistency or reliability. The scales was used in the questionnaire included the Likert Scale. The Likert scale was used with a 1 to 5 rating scale.

The independent variable of this study was the five elements of the learning organization, and the dependent variable was entrepreneurship. The data was subjected to statistical analysis for the purpose of interpretation. Descriptive statistics such as mean, standard deviation and inter correlations were used to understand the interdependence between the variables. Data analysis was done by descriptive as well as inferential statistics using Pearson Product Moment Correlation Coefficient by SPSS software. To examine relation between learning organization elements and entrepreneurship in main hypothesis, Pierson's correlation coefficient and linear regression analysis were used. The assumption of normality distribution was also verified. Secondary hypothesis were studied by analysis of Variance ANOVA and Kruskal-wallis tests.

6. Research Findings

In order to analyze data by statistical tests, the following hypotheses and proceedings were introduced:

Average grade of five elements of the learning organization and entrepreneurship and level of significance among averages and hypothetical average of 3 are shown in Table 1.

The average grade of the entrepreneurship and learning organization elements were significantly higher than hypothetical average of 3. In addition analysis of grades frequency distribution related to learning organization elements and entrepreneurship showed that distribution of grades was established. The pre-test assumption of normality distribution is provided. Findings related to research main hypothesis and obtained correlation coefficients related to the main hypothesis are shown in Table 2.

7. Main Hypotheses

Hypothesis 1: There is a relationship between personal mastery and the entrepreneurship of scientific faculty members.

Hypothesis 2: There is a relationship between mental models and entrepreneurship of scientific faculty members.

Hypothesis 3: There is a relationship between shared vision and the entrepreneurship of scientific faculty members.

Hypothesis 4: There is a relationship between team learning and the entrepreneurship of scientific faculty members.

Hypothesis 5: There is a relationship between systems thinking and the entrepreneurship of scientific faculty members.

Hypothesis 6: There is a relationship learning organization elements and the entrepreneurship of scientific faculty members.

As shown in Table 1, correlation coefficient between Personal mastery and entrepreneurship is positive and significant ($r=0.62$, $P=0$). Therefore, hypothesis No. 1 is confirmed. Correlation coefficient between Mental models and entrepreneurship is positive and significant ($r=0.77$, $p=0$); and correlation coefficient between Shared vision and entrepreneurship is positive and significant ($r=0.76$, $p=0$), therefore hypothesis No. 2 and 3 are confirmed.

Similarly correlation coefficient between Team learning and entrepreneurship is positive and significant ($r=0.63$, $p=0$), therefore hypothesis No. 4 is confirmed. Correlation coefficient between Systems thinking and entrepreneurship is positive and significant ($r=0.73$, $p=0$); and hypothesis No. 5 is also confirmed. Correlation coefficient between the elements of the learning organization and entrepreneurship is positive and significant ($r= 0.84$, $p=0$) hence, hypothesis No. 6 is also confirmed.

Results of regression analysis related to relationship between elements of the learning organization and entrepreneurship are presented in Table 3. As shown in table 3, when all items are entered into equation simultaneously and all items have a significant relationship with entrepreneurship. Therefore, all hypotheses are confirmed.

Findings of secondary hypothesis are following:

7.1 Secondary Hypotheses

Hypothesis 1: Amount of application of learning organization elements in sample universities is different.

Hypothesis 2: Amount of entrepreneurship in sample universities is different.

Analysis of variance ANOVA was used to examine secondary hypothesis number 1. The assumption of equality among variances, did not confirm use of ANOVA test; hence Kruskal-Wallis test was used. Findings from this test confirmed secondary hypothesis No 1. ($\chi^2 =12.44$, $p=0.03$). Therefore, application of learning organization elements was different among universities. Kruskal-Wallis test also confirmed secondary hypothesis number 2. ($\chi^2=11.62$ and $P=0.04$), that is, entrepreneurship is different among universities. Secondary hypothesis was also confirmed by

analysis of variance ANOVA test, H_1 from secondary hypothesis (F=3.07, p=0.01), and H_2 from secondary hypothesis ($F_{=}$2.95, $p_{=}$ .0.03).

8. Discussion and Conclusion

Although in recent years, invention had an especial status in the development of countries, but nowadays entrepreneurship is one of the main elements of economic growth in individual domain that the naming of this era as the golden era of entrepreneurship indicates this issue. It was proved that the organizations, in order to increase their capabilities, should learn to function successfully in the environment of continual insertions, rapid technological developments, great social changes, and increasing competitions. Since the basis of entrepreneurship is a personal matter, holding occupational training programs that fit the needs can perform the expansion of skills, expertise and personal capabilities. These programs could primarily fortify entrepreneurship, and later may facilitate the application of learning organization's five elements.

The result of our first hypothesis is in line with the findings of Blandford's (2005) study called 'Desired Change through Personal Domination'. This study indicated that the fortification of personal mastery could lead to organizational changes, increase of efficiency, and fortification of communicative skills, satisfaction, and disappearance of special occupational problems. Additionally the findings of Amy HawKins (2005) research confirm the first hypothesis as well, since the managers can be effective through their personal mastery in the organization. The principles of organizational learning and learning organization introduce guiding instructions in order to confront the environmental distrust, although the lack of decisive empirical supports in some key fields, especially in defining the role of managers who are as the elements of development, or as obstacles of organizational learning, cause some limitations in this domain.

In the second hypothesis, the relationship between mental models and the amount of entrepreneurship of scientific faculty members was dealt with by the correlation coefficient test, and this confirmed the relationship of these two variables. The majority of the best ideas which contain the attitudes and are the cause of innovations in the organization, since they oppose the dominant mental models intrinsically, they never get the opportunity of changing to a real design. The authorities of the learning organizations should obtain the skill to reveal the criterion of the mental models without exciting defensive procedures. On this path, four recommendations which include paying attention to mental mutations, creating a balance between two encounters of questioning and support, recognizing and neutralizing the defensive procedures, and differentiating between the claimed theory and the used one should not be forgotten.

Mental models determine the attitude and function of each person. Since, in entrepreneurship, the main role is played by the attitudes or ideas of the individuals, i.e. people choose new and creative methods to solve their problems and do their activities by their systematic and rational mental analyses. Based on this issue, the unit of the university can create the field for the professors' entrepreneurship, and lead their mental models toward the organizational growth and development, which consequently can guarantee the individuals' performance according to the organizational principles. The analysis of this hypothesis is in line with Larraine's (2004) research results called 'Managing high school principles: Applying the beliefs in learning organization', in which the high school principles believed in the five elements of the learning organization including personal mastery, shared vision, the systems thinking, team learning, and mental models for the development and maintenance of their schools (Yarmohammadzadeh, 2006).

The third hypothesis indicated that there is a relationship between shared vision and the amount of entrepreneurship of scientific faculty members. Shred vision is a mental understanding of the future that a person or an organization desires to create or to provide the conditions for its achievement in a time span. Therefore, in order to assemble the functional procedures for the organization's future, a deep consideration of the models and environmental changes is demanded to recognize the opportunities and through the strong points of the organization, to choose the appropriate procedures of doing the organization's activities. As a consequence, the authorities should describe the organizational realities to individuals and create a shared vision about the goals. Trying to reach the shared vision creates a creative attraction in a person, which is the coordinator of the activities in achieving the desired goals of the organization. The result of the above mentioned hypothesis is in line with the research results of Larraine (2004) and Sharman (2005).

The fourth hypothesis showed that there is a relationship between team learning and the amount of the entrepreneurship of the scientific faculty members. Most organizations are unable to establish the order needed for team learning, whatever that is one of the fundamental and obvious principles in most of the sports fields. There is a lot of evidence in which the wisdom of the group was higher than the knowledge of its members. People show an extraordinary capacity for harmonious action games. Team learning starts with dialogue and speaking in which the

group discovers the realities that the individuals cannot discover alone. Team learning is very important, because the groups, not the individuals, form the basis of the modern organizations, and since most of the activities in organization are team work and collaborative, and these groups consist individuals full of new ideas and creativity; therefore, learning in a team can improve the group function of the individuals at the university. Team learning provides the field for learning from each other in which the new creative perspectives for doing things are created. This hypothesis is similar to the research results of Sharman (2005) and Amy Hawkins (2005).

The fifth hypothesis indicated that there is a relationship between systems thinking and the amount of the entrepreneurship of the scientific faculty members. One of the most important and most effective ideas that systems thinking lead to is that models with special structure emerge repeatedly and regularly. Such a system is the key of each person's understandings in the routine life and organizational behaviours. The problem is in fact that the authorities think by making the knowledge more specialized in their organization, thus they would solve the problems better and faster. From several perspectives, the mission of systems thinking is to unite the existing knowledge at different scientific fields. The main purpose of learning the systematic models is a renewed arrangement of perception in a way that one can understand the structures that create the problems better and more precisely. The result of the mentioned hypothesis is in line with Najafbagy and et al.'s (2011) research results.

9. Suggestions

Along with these findings, we argue the following practical suggestions.

1) Creating a learning atmosphere and a safe environment for creative scientific competition as well as appropriately applying the scientific faculty members' capabilities at the universities. 2) Considering the issues and their various applications in relation with each other and systematically that causes a deep relationship between the scientific faculty members which leads to the entrepreneurship. 3) Providing various consultation and guidance procedures for all the members of the groups and organizations. 4) Evaluating the actions and ideas of the scientific faculty members independently and without subjectivity; moreover, delaying unspecified and ambiguous judging situations, because this procedure may leads to a greater consideration of the problems and phenomena from several and wider perspectives. 5) Creation and development of a separate section that is nominated entrepreneurship section in universities toward of insight of this research results.

9.1 Suggestion for Future Research

Researchers may observe this subject that if universities are called "Entrepreneur learning organization", what characteristics, behaviours and effects should be expect from higher education.

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Table 1. Average grades of learning organization elements and entrepreneurship, hypothetical average 3 and levels of significance.

Variables	**Ave rages**	**Levels of sig.**
Personal mastery	3.11	0.00
Mental models	3.03	0.00
Shared vision	3.01	0.001
Team learning	3.13	0.00
Systems thinking	3.20	0.00
Learning organization (total)	3.84	0.00
Entrepreneurship	3.89	0.003

Table 2. Pearson's correlation coefficients of points of learning organization elements and entrepreneurship

Entrepreneurship / The elements of Learning Organization	Personal mastery	Mental models	Shared vision	Team learning	Systems thinking	Learning Organization
Entrepreneurship (Dependent variables)	0.62	0.77	0.76	0.63	0.73	0.84
p	0.00	0.02	0.00	0.01	0.00	0.00

Table 3. Result of regression analysis related to relationship between learning organization elements and entrepreneurship.

The elements of Learning Organization	N. STD. Coef		STD. Coef.	T	Levels of Sig.
	B	S.D.	Beta		
Personal mastery	1.13	0.11	0.05	1.14	0.041
Mental models	11.67	0.22	0.18	4.76	0.00
Shared vision	0.23	0.21	0.3	5.37	0.00
Team learning	1.20	0.28	0.36	6.8	0.006
Systems thinking	0.72	0.27	0.12	2.56	0.00
Fixed Amount	12.67	2.71	-	4.67	0.00

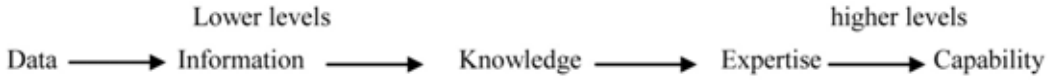

Figure 1. The levels of knowledge hierarchy.

Figure 2. The relationship between learning organization and entrepreneurship.