Assessing the university's learning organization profile

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During the recent decade and concurrent with massive waves of social, economic, political and cultural changes; organizations too have undergone frequent structural and fundamental changes. Common denominator to all these changes is the ever increasing growth in scientific knowledge. In these instances traditional management cannot control, forecast and manage inner and outer contents of a broad organization. To compromise and cope with these conditions, organizations need a new model. Therefore new organizations are shaping in the current variable environments that are called the learning organizations. Traditionally, it seems that universities (the society of students) are the nearest (most similar) form of a true (natural) learning organization. Based on this, the researchers sought to determine the profile of learner's organization model of the Qazvin University of Medical Sciences. The research results showed that the studied University has a relatively large distance to the model and characteristics of continuous system linked organizational learning model. On the other hand pointing to the great mission of university in educating and training specialist manpower, maintain and promote social health and development of economic and social foundations; becoming coordinated with social, cultural and global transformation is an inevitable necessity for the university. In this context, university needs to develop a program of structural changes for superiority in learning.

Key words: Learning organization, organizational learning, system linked organizational model, university, knowledge.

INTRODUCTION

Incidence of Industrial Revolution opened an era of mass production and cheap price slogan, and reached its peak with Frederick Taylor's ideas. On that era command and control paradigm lead to creation and development of multi divisional organization form and these organizational paradigmatic emphases on efficiency and integration expertise were on top of organizational schemes. But in twenty-first century the speed with which organizations can adapt in the face of such variable environments such as globalization and consumer protection, information superhighway and discussions of this kind is slow. So a new form of organizations in the variable environments are shaping that are called the learning organizations (James, 2003). Several definitions of learning exist and are presented in the management of organization literature. For example, they say organizational learning is a tool by which knowledge is being protected in the organization (Stevens et al., 2003). The process of understanding and gaining new insight is the core of organizational learning (Lukas et al., 1996). According to Garvin (1999), organizational learning is "the process of improving action through better knowledge and understanding". Meaning, the process strengthens the organization while allowing the information to turn into knowledge and consequently increase the ability to conform to organizational demand. Traditionally, it seemed that the universities are the (most likely) organization in a real learning situation. Also the universities are educational systems responsible for creating roles in human resource investment setting for flourishing the society. Today, these systems get a considerable share of budget allocation in each country and in respect to the importance and dimensions of its
role in economic, social, cultural and political community. It is necessary to take essential actions to improve the quality of educational systems (White, 2005). With due attention to the obstacles and restrictions of today's world, especially in the developing world, it is necessary to evaluate, review and reform the health care systems (Fellin et al., 1995). Considering the role of medical science universities in maintaining and promoting health education and manpower development for improving socioeconomic fundamentals and also since it is considered the most important organization for health system in the country, becoming coordinated with social and cultural developments is an inevitable necessity for medical science universities. Therefore, graduates and other military health system should adopt strategies to increase their competence and ability choices. This requires, using the efficient organizational model of the learning organization, learning organization in the unstable conditions and high competitive environment, react proportionally to changes and are also potentially flexible. Thus, it can be a mechanism to deal with the challenges associated with the health system it is going to create (Sharon, 2007). In fact, organizations and businesses facilitate learning which transfer knowledge that enables and empowers employees to increase performance and at the same time motivate staff and satisfy the organizational goal. Thus increase in products, processes and new services will follow. The time needed to adapt to the changing environment will also be short (Symon 2000; Marquardt, 2002). Requirements of our organizations, including universities, which is said to be "human making centres", are to improve learning and become learning organizations. In fact, our universities are suppliers of human resources required to achieve the vision goals. The role of universities in economic development, social, health and welfare system in Iran is widely regarded. With reference to 4th chapter (knowledge based development) of the 4th five year economic, social and cultural development plan and budget laws in various years (4th development plan and budget laws, 2005 to 2010), large sums of government spending in education and academic researches is offered (almost increased four fold) and are looking to measure increasingly visible benefits from government spending in business and social arena.In addition, Mission of Islamic Republic of Iran's Medical Science Universities are relatively in a close relation with the health system mission at the national level.

Considering the special importance of organizational learning and converting our organizations to become learning organizations, the present research is conducted to assess profile of learner organizations of Qazvin Medical Science University in I.R.Iran, using a contiguous system-linked organizational model.

METHODS

This survey research was done at one of the central medical universities in Iran (Qazvin University of Medical Sciences) for the first time in the academic year 2008 to 2009. In this study, a measurement survey was used, the research community consisted of managing directors, faculty members and staff of 1517 people comprised of, 91% staff, 7.46% faculty members and 1.54% managers.

In Iran no similar study was found. To determine the sample size, result of a similar research in 2006 by Berrio in Ohio University has been used (Berrio, 2006). Considering \( \alpha = 0.05 \) (95% confidence interval) and \( \beta = 0.2 \) (80% power of test), \( \sigma = 30 \), \( d = 5 \) (relative risk of less than 4%) and using the following formula:

\[
\frac{(Z_{a/2} + Z_{\beta})^2 \sigma^2}{d^2}
\]

Sample size of 283 people has been reached and finally, 350 people were studied; allocation of sample size to suit the group size was performed. Of course due to the importance of managers' role in converting university into learning organization and also shortage of managers, all of them took part in the study. Tools used for data collection in this study is a conforming questionnaire tool for "profile of learning organization" which was created and used for the first time by Marquardt (1996) to evaluate the level of organizational learning. Systems -linked organizational model consists of sub-system. These subsystems are as follows: learning, organization, people, knowledge and technology. These 5 subsystems are necessary for sustainable organizational learning and assurance of organizational success (Marquardt, 1996).

Based on Marquardt model of a questioner consisting of fifty questions (with 10 questions for every subsystem) based on Likert 5 degrees scale (from zero to 4) with 160 times the standard deviation was 27. Gained total value can be a number between 0 to 200 and gained total value of each of five subsystems can be a number between zero to 40. Also the cut-off point for the determination of whether the university is a learner model or not with Marquardt model (for Profile 100 and for each of the dimensions 20) on average (Berrio, 2006). Appearance and content validity of questionnaire has been determined with Cranach's Alpha (0.931) coefficients and questionnaire durability was confirmed. The final questionnaire was presented to the sample group (350 persons), and finally 277 questionnaires were returned with a raised factor of 79%. 17 questionnaires were dismissed due to lack of information and ultimately eliminated and finally 260 questionnaires were analyzed. Statistical analysis was performed using t-test, analysis of variance (ANOVA) with Tukey post hoc for multiple comparisons of P≤0.05 considered to be statistically significant.

RESULTS

Research society consisted of 124 females (52%) and 126 males (48%). Also 23 (8.84%) had less than bachelor degree education, 146 (56.15%) had bachelor degree, 49 (18.85%) had M.Sc and professional doctorate and 42 (16.16%) had specialization and Ph.D.

Rating learner organization profile of Qazvin Medical Science University is 76.5±27.82. With under systems of learning organizations model of Marquardt, the highest points was in the technology subsystem 17.41±8.16 (Table 1).

The highest point of subsystems for both female and male groups were in order 18.49 and 16.25, the lowest points of 13.67 for female and 13.72 for male both belong
to learning subsystem. In the learning organization dimensions, there was no significant difference between female and male except for technology dimension. The average learner organization profile of university was 79.83 for female and 73.13 for male (Table 2).

Averages from five branches of dimensions of learner model subsystem for managers, faculty members and staff, were rated 76.54, 66 and 79.5 respectively which did not show any significant difference (Table 3). The ANOVA analysis results indicate the existence of significant difference in technology and learning dimensions and also the learner organization profile of university among organizational categories (managers, faculty member and staff). Tukey Post hoc for multiple comparisons, revealed that these differences are due to faculty members and employees. Thus showing that the faculty members rated learning and technology dimensions weaker than the managers and staff assessment; and this led to significant difference in the results total.

### Conclusion

The requirements of our organizations especially universities are to improve learning and become learning organizations. In fact, our universities are suppliers of human resources required to achieve vision goals. In this study, neither group of men or women; assess the university as a learning organization, and in this regard men showed weaker profile. However same kind of study in Ohio University by Berrio showed both men and women evaluated Ohio University as a learning organization. Despite the fact that both groups at Ohio University evaluated university as a learning organization, men have shown lower profile (Berrio, 2006) also similar to the results obtained from our study. These results are conforming to documented differences among the features, trends and activities of women and men - which can affect organizational learning (Marquardt, 2002).

The results also show that the people in none of the

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**Table 1.** Rating profile of university’s learning organization.

<table>
<thead>
<tr>
<th>Row</th>
<th>Dimension</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Learning</td>
<td>13.69</td>
<td>7.46</td>
</tr>
<tr>
<td>2</td>
<td>Organization</td>
<td>15.22</td>
<td>7.76</td>
</tr>
<tr>
<td>3</td>
<td>People</td>
<td>14.81</td>
<td>8.27</td>
</tr>
<tr>
<td>4</td>
<td>Knowledge</td>
<td>15.23</td>
<td>7.59</td>
</tr>
<tr>
<td>5</td>
<td>Technology</td>
<td>17.41</td>
<td>8.16</td>
</tr>
<tr>
<td>6</td>
<td>Total</td>
<td>76.58</td>
<td>27.82</td>
</tr>
</tbody>
</table>

**Table 2.** Rating profile of university’s learning organization gender base.

<table>
<thead>
<tr>
<th>Row</th>
<th>Dimension</th>
<th>Female Mean±SD</th>
<th>Male Mean±SD</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Learning</td>
<td>13.67±7.54</td>
<td>13.72±7.4</td>
<td>NS</td>
</tr>
<tr>
<td>2</td>
<td>Organization</td>
<td>15.8±7.9</td>
<td>14.6±7.58</td>
<td>NS</td>
</tr>
<tr>
<td>3</td>
<td>People</td>
<td>15.41±8.26</td>
<td>14.17±8.27</td>
<td>NS</td>
</tr>
<tr>
<td>4</td>
<td>Knowledge</td>
<td>15.82±7.13</td>
<td>14.6±8.03</td>
<td>NS</td>
</tr>
<tr>
<td>5</td>
<td>Technology</td>
<td>18.49±7.58</td>
<td>16.25±8.63</td>
<td>P=.025</td>
</tr>
<tr>
<td>6</td>
<td>Total</td>
<td>79.83±26.03</td>
<td>73.13±29.32</td>
<td>NS</td>
</tr>
</tbody>
</table>

**Table 3.** Rating profile of university’s learning organization based on organizational level.

<table>
<thead>
<tr>
<th>Row</th>
<th>Dimension</th>
<th>Manager Mean±SD</th>
<th>Faculty member Mean±SD</th>
<th>Employee Mean±SD</th>
<th>Total Mean±SD</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Learning</td>
<td>13.61±3.81</td>
<td>10.75±7.82</td>
<td>14.48±7.58</td>
<td>13.69±7.46</td>
<td>P=.006</td>
</tr>
<tr>
<td>2</td>
<td>Organization</td>
<td>15±4.88</td>
<td>13.2±7.77</td>
<td>15.78±8.04</td>
<td>15.22±7.77</td>
<td>NS</td>
</tr>
<tr>
<td>3</td>
<td>People</td>
<td>15.54±6.05</td>
<td>14.04±7.78</td>
<td>14.92±8.66</td>
<td>14.81±8.27</td>
<td>NS</td>
</tr>
<tr>
<td>4</td>
<td>Knowledge</td>
<td>16.69±5.93</td>
<td>13.86±7.12</td>
<td>15.38±7.9</td>
<td>15.23±7.59</td>
<td>NS</td>
</tr>
<tr>
<td>5</td>
<td>Technology</td>
<td>16.43±6</td>
<td>14.16±7.34</td>
<td>18.43±8.43</td>
<td>17.41±8.16</td>
<td>P=.003</td>
</tr>
<tr>
<td>6</td>
<td>Total</td>
<td>76.54±20.67</td>
<td>66±28.92</td>
<td>79.5±27.74</td>
<td>76.58±27.82</td>
<td>P=.009</td>
</tr>
</tbody>
</table>
academic groups have evaluated the university as a learning organization. Interesting point is that with increased education, the average has dropped and this shows that people with higher educational levels rate lower profile for university as a learning organization. Learning subsystem was evaluated as weakest subsystem which needs the attention of the authorities to move toward learning organization. In this context, the university can create and develop an on-time learning programs with flexibility as a priority; and if the universities want to improve learning, it must endeavour to teach individuals learning skills. According to many experts and scholars, learning organizations, are key solution to improve personal competence, stronger and faster learning. Meta cognitive development and learning how to learn. Only through increased Meta cognitive individual skills will each learner be able to stay in the change border edge (Senge, 1990). One apparent solution to boost learning subsystem is to design an appropriate individual development programs. In this context it is said that the best way to show commitment to continuous learning is entrusting limited financial authority to employees for their personal development.

In this context, some organizations have gone so broadly that they have distributed the total educational division budget to the employees and training controls are assigned to the staff. Perhaps this move in our current system may not seem very practical. Even in this case we can at least highlight a constructive role through survey, assessment and training programs for the people involved in training programs which are designed specifically for them. A fundamental and important strategy for creating a foundation of learning organization is encouraged and running the systematic thinking in the organization. Also based on the system model of the learning organizations, vital skills for learning organizations, is absolutely a systematic thinking (Shafaei, 2000).

As observed, there is a consensus over the necessity of systematic thinking in creating a learning organization. So the university should teach its staff to draw a general picture of the university in their mind and draw attention to the relations between the subunits. Based on the systematic model of learner organization one method to strengthen the learning subsystem is expansion of mind perception and learning from universal and intercultural world. In fact, learners organizations find that attitudes and different ways affairs dealt with are the source of wealth, not conflict. The more we approach openly to the values, ideas and perspectives of others, probability of personal and organizational learning will improve. Marquardt (1996) raised this strategy at the global level about university; our advice is to start with inner organization itself and in the next instance start with intra organizational level and interactions with systems involved with the implementation of this strategy. Based on Marquardt view point, another effective strategy to develop and improve learning subsystem in the organization is to change their subjective model of learning. As long as the subjective mind pattern to learning has not changed, higher management's efforts to create learning organizations will be unsuccessful. In this regard university organization through education, communication, management and continued perseverance can help the staff to become more aware of their mental models of business and transform them in order to cooperate in this field.

After the learning subsystem, weakest subsystem assessment is people subsystem; since the heart of growth, innovation and differentiation of learning organizations' ability to work is using human capital (Stewart, 1997). Therefore, in order to convert the university to a learning organization, the university should strengthen and prioritize policy for people subsystem. It should be mentioned that university's first major goal of the strategic four-year program has been promoting quality human resources (Mohebbifar, 2007) which is the point of departure for university in order to become a learning organization; to strengthen this subsystem a number of solutions exist. The first and most important is to show a pattern of learning by managers and leaders. In fact, if the university plans to take steps on becoming a learning organization, this idea has to be injected and applied from top management systematically to staff body, since actions speak louder than words; managers should transfer interest in learning to their employees by their tendencies and behavior. Major responsibility of managers in learning organizations is creating space in which learning is encouraged. Another solution that can be presented to strengthen learning subsystem; is to invite and encourage managers to participate in learning projects process (Senge, 1990). Leadership in the learning organization is an important difference than the traditional organizational leadership. The leaders of these organizations are designers, teachers and assets of the centers (Sharman, 2005).

In the university's profile, organization and knowledge subsystems were evaluated in the same level; and as in previous subsystems, the university lacks special features of the learner organization in these two subsystems as well. So if the university wants to become a learning organization; it needs to pay attention and strengthen these two subsystems of organization and knowledge as well. In today's world, knowledge will be considered as a source of major business function in organizations (Stewart, 1997). The leadership approach in Knowledge management requires the establishment of a system in which all employees are considered valuable, not just some individual employees; each and every employee is needed to build a knowledge leader. Implementation of this system creates an environment where employees work for leadership and knowledge in order to facilitate and reward the knowledge management process, to develop staff that performs the tasks without supervision and decisions of the heads of offices (Manz,
In present research organization subsystem of the university lacks the learning organization's features, while analysis of five subsystems model of the continuous system organization in a similar study conducted at the University of Ohio (Berrio, 2006) showed that the learning organization subsystem was strongest among subsystems. Rating earmarked to organization subsystem by Ohio University staff showed the importance of learning environment and its four constituent (Landscape, culture, strategy and structure). In fact organization is a structure and body, in which individual, group and organizational learning occurs. About the Qazvin University of Medical Sciences, university's structure and strategies should be changed in different ways in order to become a learning organization. While in his study wanted to answer this question “can universities become true learning organizations?” He identified three major obstacles in his study in order to convert a university into a learning organization; complex problem and structure, strategy and ultimately academic culture (White, 2005). As it is noted, his study confirms our results necessity of structural changes in order to become a learning organization. In present research, technology subsystem was assessed as the strongest subsystem; although it still has some distance with optimal features of true learner organization. Ohio University study's lowest points was related to the technology subsystem (Berrio, 2006) which proves lower importance that the staff of Ohio University put on technology networks and intelligence tools used to access the information and learning in organization. As it is observed the results of this study in the field of technology is just opposite of the results of Ohio University which proves that staff plays important role in technologies for organizational learning. Even through the university has a more favorable situation in terms of technology subsystem than in other subsystems, but to achieve the final goal simply to become a learning organization, the university should further strengthen its efforts in this subsystem as well. In fact, technology is considered the most important aspect of any organizational knowledge management. Summary results of this study show that Qazvin's Medical Science University has relatively large distance from characteristics of learning organizations. In fact, based on the assessment made, the university had acted weakly in all dimensions of five branches of the learner model. On the other hand with regard to the great mission of the university, it is an inevitable necessity to become coordinated with social, cultural, and global transformation. In fact it is necessary to act seriously in order to ensure essential measures for university's competitive advantage.

According to Hodgkinson, one of the responsibilities of world universities to move toward environmental changes variability is creation of learning organization. The universities are institutes which have both special opportunities for encouragement of ideas and activities related to learning organization and also have major responsibilities in this regard (2006).

For this purpose, the university should start a program of structural changes in order to gain comparative advantage for excellence in learning. This change should include a common vision to create a culture of organizational learning, creating strategies for building learning organizations that support the strategy and structure; also developing leadership style to obtain the highest motivation and performance. These changes and efforts require the support of university higher levels management and to encourage and support staff team and group activities within research projects while creating scientific-research network teams that can play an effective role in the transformation of university toward developing learning organization.

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