



Organizational intelligence and agility in Shiraz University of Medical Sciences

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ABSTRACT

Introduction: Organizational Intelligence is a combination of all skills that organizations need and use; it enables us to make organizational decisions. Organizational Intelligence can increase the effectiveness of the existing informational structures in achieving organizational goals and result in organizational agility. The aim of this study was to investigate the relationship between Organizational Intelligence and organizational agility in Shiraz University of Medical Sciences.

Method: This is an applied study in terms of purpose and descriptive in terms of method. The study population consisted of 1200 employees working in Shiraz University of Medical Sciences. The subjects were selected via convenience sampling. Based on Cochran formula, a sample size of 296 was determined with a confidence level of 95%. The measurement tools included the 36-item Organizational Intelligence questionnaire developed by Albrecht (2003) and a researcher-developed organizational agility questionnaire with 30 items. Expert opinion was used to determine the validity of the questionnaires and reliability was confirmed using Cronbach's alpha coefficient via SPSS, version 19.

Results: Tenure employees had the highest frequency among the participants (50%). In terms of education, employees with a bachelor's degree were the most frequent (58%). Values obtained for all variables showed a significant positive relationship between Organizational Intelligence and Agility.

Conclusion: It is recommended that the university officials take measures to include Organizational Intelligence courses in in-service training programs to promote the agility of the university, and improve the service provision process and speed.

Keywords: Organizations, Vision, Efficiency

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Introduction

Organizational Intelligence includes the talent and capacity of an organization to mobilize all of its brainpower and focus that brainpower on achieving the mission (1). Albrecht believes that just employing intelligent people with high brainpower cannot guarantee the success and progress of the organization among its competitors, because when intelligent people come together in an organization, collective stupidity occurs in the organization. He proposes that the only way to treat this is to foster and develop organizational intelligence as a new concept in the literature of the organization and management in the 21st century. He defines Organizational Intelligence as the ability of an organization to coordinate and integrate its forces, abilities, and talents and focus them to achieve the organizational mission (2). The need is felt to identify and focus attention on this factor as an efficient measure of success and create a favorable environment for active

participation of the employees and managers (3).

Literally, the term agility is defined as the ability to move rapidly and easily and to think quickly with a clever method in response to the changing environment, and exploit the changes as an opportunity (4). An agile organization is a fast, consistent, and conscious business with the ability to adapt quickly in response to unforeseen changes and unexpected events (5). In such organizations, there are processes and structures used to facilitate adaptation and increase strength. They have a harmonious and orderly system and have the ability to achieve competitive performance in a dynamic and unpredictable environment, which is not indeed disproportionate with the current functions of these organizations (6). Agility can be defined in terms of strategic response, significant changes, and a prominent system. It is a full and comprehensive response to fundamental changes occurring in the system governing business competitions in leading economies. Agility is very important in government organizations because

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the results and achievements of these organizations are interesting and admirable (7).

Organizational Agility is a new concept referring to the most desirable organizational state with regard to the existing changes. Agility increases the organization's ability to supply high quality products and services and is, thus, an important factor for the organization's efficiency (8).

Brian Maskell (2001) defines agility as the ability to flourish in an environment of constant and unpredictable change. In this regard, organizations should not be afraid of and avoid changes in their working environment, but they should deem the changes as the opportunity to gain competitive advantage in the market environment. The question is how a government agency can become more agile. In this regard, different priorities have been provided by policymakers in different organizations (9).

Results show that most agile governmental organizations have considered seven dimensions of agility as follows:

1. Organizational Change: Understanding the needs of citizens and improving the provision of services to them, making decisions through consensus, and using resources when necessary to meet customer requirements;
2. Leadership: Developing organizational vision, paying attention to strategic trends and objectives, and increasing flexibility and use of resources according to needs;
3. Culture and Values: creating an environment to promote change, paying attention to urgent needs in order to invest in innovations, and creating a sense of teamwork throughout the organization;
4. Performance management: paying attention to staff training to succeed in the future, creating a comprehensive performance management system in the organization, and using appropriate models for performance measurement;
5. Customer services: developing a strategy for managing relationships with citizens, aligning customer services with business processes, and encouraging citizens to move to new and cheaper communication channels;
6. Electronic government: moving towards electronic processes, using technology to improve office communications, and encouraging citizens to move towards efficient communication channels; and

7. Supply Chain Management (SCM): an agile SCM includes market sensitivity, virtuality, process integration, and networking (10).

Given the importance of the role and place of Medical Sciences in various sectors of a society given the direct relationship with people, it is essential that the related organizations adapt themselves with cutting-edge technologies. This will be possible via organizational intelligence (OI). Nowadays, organizations are facing intense international developments; therefore, their survival requires new ways of solving problems that depends on innovation, and entrepreneurship. In this context, organizational agility is useful in organizations. Therefore, studies of this kind can help identify the organization's status in terms of Organizational Intelligence, including the ability to adapt to the environment, vision, learning, application of knowledge, structure and organizational performance, morale, information technology, communications, and organizational memory. This information can be used to focus on the capabilities, plan to address weaknesses, and promote efficiency and effectiveness of the organization. Therefore, this study aimed to determine the relationship between Organizational Intelligence and Agility in Shiraz University of Medical Sciences. Based on the review of the related literature, a conceptual model was developed for this study that illustrates the relationship between Organizational Intelligence and organizational agility and formulated accordingly.

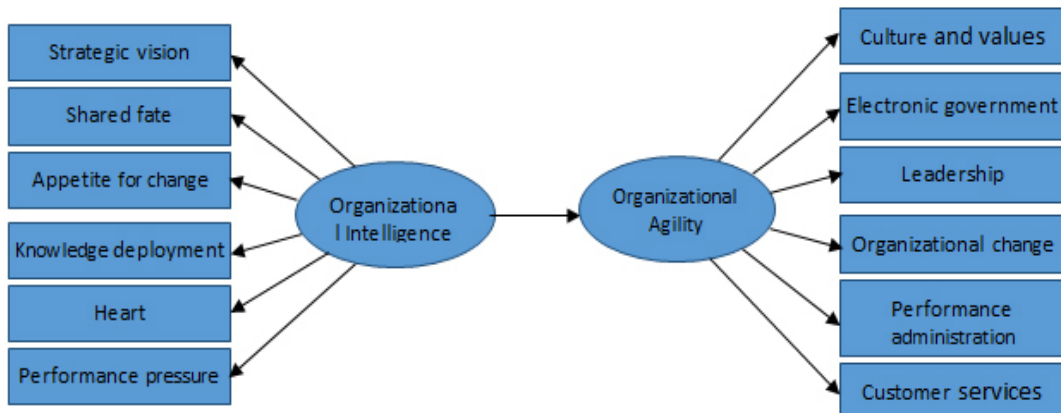
Methods

This study is applied in terms of purpose and descriptive in terms of method. The study population consisted of 1200 employees working in office positions of Shiraz University of Medical Sciences. The subjects were selected via simple random sampling. Based on Cochran formula, a sample size of 282 was determined with a confidence level of 95%.

$$n = \frac{\frac{z^2 pq}{d^2}}{1 + \frac{1}{N} \left[\frac{z^2 pq}{d^2} - 1 \right]} = 282$$

Formula1: Calculation of the sample size

Figure 1. Organizational agility model



The measurement tools included the 36-item Organizational Intelligence questionnaire developed by Albrecht (2003) and a researcher-developed organizational agility questionnaire with 30 items. 282 questionnaires were distributed and 188 valid questionnaires were collected. Albrecht Organizational Intelligence questionnaire has seven dimensions: 1) strategic vision (Having awareness of the goal and working capacity to express objectives); 2) Shared Fate (a sense of common purpose and esprit de corps); 3) Appetite for Change (the ability to deal with unexpected challenges and adapt to various changes); 4) Heart (spirit and intense energy to succeed); 5) Alignment and Congruence (usefulness of tools and rules in the organization and interaction of members to deal with the environment); 6) Knowledge Deployment (capacity to share information, knowledge and insight with others and the free flow of knowledge throughout the organization); and 7) Performance Pressure (seriousness in doing the right things for efficiency and shared success (11).

Researcher - developed organizational agility questionnaire has seven dimensions: 1. Organizational Change, 2. Leadership, 3. Culture and Values, 4. Performance management, 5. Customer services, 6. Electronic government, 7. Supply Chain Management.

Expert opinion was used to determine the validity of the questionnaires and reliability was confirmed using Cronbach's alpha coefficient via SPSS, version 19. Cronbach's alpha coefficient was 0.92 for Organizational Intelligence questionnaire and 0.90 for organizational agility questionnaire. Therefore, the reliability of these instruments was confirmed.

In order to analyze the obtained data from the questionnaires, descriptive – inferential statistical techniques were used. In terms of descriptive statistics, mean, standard deviation, skewness, distribution of the research variables were calculated,

while in terms of inferential statistics, we used Pearson's correlation coefficient and structural equation modeling (SEM).

It should be noted that for ethical considerations, consent of all subjects was obtained for participation in the study. Inclusion criteria in this study included being a government or contractual employee working under the supervision of Shiraz University of Medical Sciences; having a high school diploma or higher, and being familiar with Organizational Intelligence and organizational agility. In addition, the researchers explained Organizational Intelligence and organizational agility for the subjects orally before administration of the questionnaires among them so that they can understand the items better. All subjects who entered the study met the above mentioned criteria.

Results

The findings of this study showed that most respondents were male (56%). Most of them had undergraduate education (58%). Most respondents were Tenure employees (46%). Employees under ten years of service formed 46% of the respondents. 50% of the respondents were between 40-31 years old (Table 1).

Presented in Table 2 are descriptive statistics related to organizational intelligence (OI) and organizational agility (OA). As can be seen in this Table, among all organizational intelligence factors, the highest mean value was that of knowledge development (10.32) while the lowest mean value belonged to tendency toward change (7.91). Moreover, the highest and lowest mean values of the organizational agility factors were those of leadership (16.33) and culture and values (11.13). In addition, the results of skewness and kurtosis tests were indicative of relative normality of the distributions of all research variables.

Table 1. The demographic characteristics of the respondents

Characteristics	Status	Frequency	Percentage
Age	20-30	27	16.7
	31-40	8	50.4
	41-50	57	28.9
	51-60	111	3.8
Gender	Male	119	56
	Female	93	44
Education	Diploma	20	9.4
	Associate degree	17	8
	Bachelor	123	58
	Master	41	19.3
	PhD	11	5.2
Working experience	1-10	97	45.7
	11-20	82	39.6
	21-30	31	14.6
Type of employment	Tenure	104	46.49
	Contract-based	14	9
	Agreement-based	92	43.4
	Project-based	2	1.9

Continuing with the research, in order to examine pairwise relationships among organizational intelligence and agility factors, we used Pearson’s correlation test. Table 3 presents the results of this test.

According to Table 3, in most of the cases, positive and significant relationships were found between OI and OA factors. Based on the results, the only insignificant associations were between spirit (an OI factor) and leadership (an OA factor) and between performance pressure (an OI factors) and performance management (on OA factor). The strategic insight (an OI factor) was found to be correlated to the six OA factors at r values ranging from 0.2 to 0.45. Range of corresponding r values to the correlations between common destiny (an OI factor) and OA factors was found to be between r = 0.14 and r = 0.39. Furthermore, the tendency toward change (an OI factor) was observed to be correlated to OA factors at r values ranging from 0.24 to 0.49.

Also in knowledge application, the relationships were found to be significant at r = 0.24 to r = 0.37. The correlations between spirit (an OI factor) and OA factors ranged within 0.13 – 0.34. Finally, the results showed that the corresponding correlation coefficients to the relationship between performance pressure and different OA factors were between 0.10 and 0.30. In fact, one could stipulate that the tendency toward change and performance pressure exhibited the strongest and weakest correlations to OA factors.

Continuing with the research, in order to investigate the causal effect of OI on OA, we used a statistical technique called SEM. The methodology was implemented utilizing AMOS Ver. 22 modeling software. It is worth noting that, in SEM, measurement models and structural models are tested simultaneously. In the present research, two measurement models of OI and OA were examined together with structural relationships between the two latent variables of OI and OA; the results are demonstrated in Figure 2.

Table 2. Descriptive indexes of variables

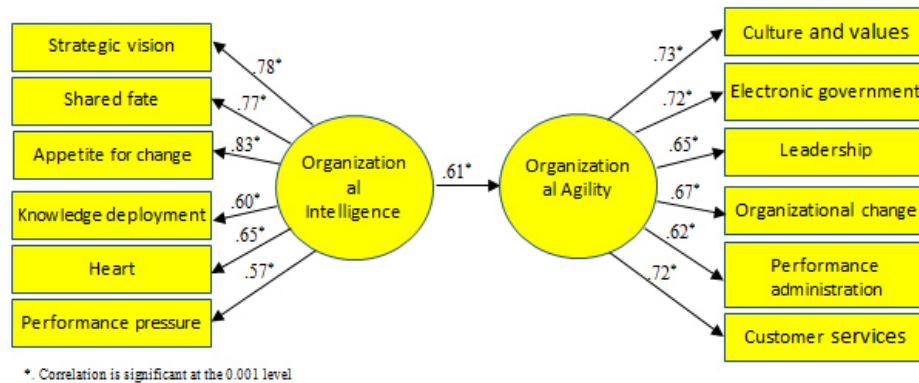
Dimentions	N	Mean	Std. Deviation	Skewness	Kurtosis
Strategic Vision	188	8.41	2.10	-.015	.146
Shared Fate	188	8.31	2.06	-.161	.020
Appetite for Change	188	7.91	2.22	.266	.014
Knowledge Deployment	188	10.32	1.99	-.001	-.116
Heart	188	8.79	1.64	.324	-.262
Performance Pressure	188	8.85	1.77	-.031	.047
Culture and Values	188	11.13	3.87	-.266	-.495
Electronic Government	188	12.48	2.96	-.187	.172
Leadership	188	16.33	3.30	-.766	.102
Organizational Change	188	13.60	2.35	.011	.192
Performance Administration	188	12.38	2.98	-.403	.107
Customer Services	188	13.54	2.74	-.389	-.216

Table 3. Correlation between the components of Organizational Intelligence and Agility

O- Agility \ O- Intelligence	Culture/Values	Electronic Government	Leadership	Organizational Change	Performance Administration	Customer Services
Strategic Vision	.45**	.36**	.20**	.38**	.29**	.33**
Shared Fate	.39**	.34**	.21**	.24**	.14*	.24**
Appetite for Change	.49**	.48**	.24**	.34**	.27**	.34**
Knowledge Deployment	.26**	.26**	.29**	.37**	.24**	.30**
Heart	.34**	.32**	.13	.28**	.15*	.23**
Performance Pressure	.28**	.30**	.26**	.21**	.10	.22**

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Figure 2. Statistical Results of Organizational agility model

As is presented in Figure 2, results related to the significance of the coefficients and parameters related to OI measurement model indicated that all of the 6 observed variables in the OI questionnaire (strategic insight, common destiny, tendency toward change, knowledge application, spirit, performance pressure) were good indices for examining the latent variable of OI. Among these, tendency toward change (with a factor weight of 0.83) and performance pressure (with a factor weight of 0.57) represented the strongest and weakest measures for the latent variable. With regard to the measurement model of OA, the related indices could well measure the variable. However, culture and value (with a factor weight of 0.73) and performance management (with a factor weight of 0.62) represented the strongest and weakest measures when it came to the examination of the latent variable of OA.

Causal effect of OI on OA can be expressed in terms of the results related to the structural relationship between these two variables. In this regard, an investigation on the parameters incorporated in the model reveals that OI imposes a significant and positive effect on OA ($\beta = 0.61$, $p < 0.001$). In other words, an increase in OI of the staff working at Shiraz medical centers tended to enhance OA. In order to examine the fitness of the proposed theoretical model to data and validate the results, we proceeded to calculate fitness indices including χ^2 index, goodness-of-fit index (GFI)², adjusted goodness-of-fit index (AGFI)³, comparative fit index (CFI)⁴, incremental fit index (IFI)⁵, normed fit index (IFI)⁶, and root mean square error of approximation (RMSEA)⁷. As shown in Table 4, the analysis results indicated goodness of the model fitness.

Table 4. The Fit Indices for Organizational agility model

indexes	RMSEA	NFI	IFI	CFI	GFI	AGFI	d.f/ χ^2
values	.06	.91	.96	.96	.93	.90	1.73

1- model fitness

2- Goodness Of Fit Index (GFI)

3- Adjust goodness of fit index (AGFI)

4- Comparative Fit Index (CFI)

5- Incremental Fit Index

6- Normed Fit Index

7- Root Mean Square Error of Approximation (RMSEA)

Discussion

The findings obtained from the data analysis suggested a significant positive relationship between Organizational Intelligence and organizational agility. That is, Organizational Intelligence had a significant impact on the development of Organizational Agility in Shiraz University of Medical Sciences. It seems that if an organization is wider and has a greater diversity of occupations and skills, as well as interaction with the environment, having a strategic vision is essential for that organization to improve its efficiency and respond better and faster to customers. The current turbulent world and volatile environment requires agile and intelligent organizations that can show flexibility and respond to any change and sudden event.

In this regard, the findings of Zabihiet al. (12) on the relationship between Organizational Intelligence and organizational agility in Mashhad University of Medical Sciences showed that in hospitals affiliated with Mashhad University of Medical Sciences, Organizational Intelligence was effective in creating a context appropriate to increase the Organizational Agility. This is consistent with the results of this study.

Shiri et al. (13) in a study entitled the relationship between Organizational Intelligence and organizational agility in Ilam, found a significant positive relationship between the components of these two variables. This is also consistent with the results of this study.

Conclusions

The results of this study can help the authorities to plan for improving the organization's responsiveness and flexibility.

Managers and planners of Shiraz University of Medical Sciences can incorporate Organizational Intelligence courses in the staff in-service training programs to improve the agility of the university and improve the speed and quality of services provided.

The findings showed that strategic vision had the largest share in determining the organizational agility. Therefore, the organization's agility will enhance if more attention is paid to the strategic planning at the university; the vision, goals, strategies, missions, and strategic plans for the organization are reviewed and updated by the managers; and employees are familiarized with these concepts.

Conflict of Interest

None declared

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