

Investigating the Impact of Learning Organization Components on Organizational Innovation (Case Study: Islamic Azad University)

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Article history:

Received date: 8 April 2018

Review date: 27 May 2018

Accepted date: 26 July 2018

Keywords:

Learning Organization Components, Organizational Innovation, Islamic Azad University.

Abstract

Purpose: To predict the risks and opportunities faced by organizations in future will that give us the ability to decide and think about them before we get into trouble. Organizational change planning and improvement with lifelong learning to cope with organizational challenges for sustainable organizational survival and development are through the prominent necessities. The purpose of this study was to investigate the effect of components of learning organization on innovation in Islamic Azad University. **Methodology:** This research was a descriptive survey. The statistical population of the study consisted of all faculty members of Shabestar Azad University in 2016. The initial sample size consisted of 271 individuals and 160 individuals were selected by stratified random sampling method using the Cochran formula. For data collection, Goh standard questionnaire of learning organization and the standard organizational innovation questionnaire Saatchi et al. were utilized. The validity of the two questionnaires was confirmed. The reliability of the learning organization questionnaire was equal to $\alpha = 0.843$ and organizational innovation reliability was calculated as $\alpha = 0.811$ using Cronbach's alpha coefficient. Using SPSS and LISREL software, the obtained data were analyzed through descriptive and inferential statistical analysis (confirmatory factor analysis, path analysis). **Findings:** The results indicated of the direct and significant impact of the components of the learning organization (transparency, empowerment and leadership commitment, experimentation and reward, teamwork, and group problem solving) on organizational innovation and also indicated a good fitting for the model. **Discussion:** The components of the learning organization have an impact on organizational innovation and lead to improvement of the organizational performance in all its components (transparency, empowerment and commitment of leadership, experimentation and reward, teamwork, and group problem solving).

Please cite this article as: Jafarzadeh Ghadimi R, Enayati T, Salehi M. (2018). Investigating the Impact of Learning Organization Components on Organizational Innovation (Case Study: Islamic Azad University), *Iranian journal of educational Sociology*, 1(7), 180-197.

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1. Introduction

Organizations are making changes in culture, structure, individuals, and have influence on community development. To do this, they re-design activities of schools, leadership, education, and students. The system of education of a country is due to its fundamental role as an innovator, includes efforts to make changes in all aspects of the educational system that are consciously and purposefully aimed at improving its functions. By helping to identify the existing creative and innovative forces and providing the necessary ground for the emergence and development of brilliant talents, this system contributes to sustainable development of the country (Rezaeian Fordoie, 2014).

Different organizations have always set out specific long-term plans to achieve their main goals and upgrade their indices. Majority of these programs are based on increased quality and profitability indices, and organizational and service plans aiming at reducing the risk factors and loss of time and cost (Garrido & Martos, 2016). This type of management and planning is used for adaptive flexibility, the correct use of products, and the promotion and improvement of equipment and products used to meet the content and taste of the day (Matejun, 2016). More specifically, in this planning style, the used pattern is based on the idea and the innovation in the context of a specific change (Lisa et al., 2016). One of the most important indices of success in this field is the use of innovations within its specific framework to remain in the competitive environment and provide feedback from it and available resources (Nor Azlina and Aliza, 2016).

The foundation of enterprise innovation is based on the use of specialized and flexible resources to achieve the maximum acquired capabilities (Shruti et al., 2016). One of the environments that seriously affects the organization's innovation in advancing its goals is the educational and academic environment (Simao, 2016).

In this system, through the application of organizational innovation and its cultural, social, and structural basis, the governing educational system implements an independent process, and the results include the reduction of unimportant, waste, and time issues, and with that, organizational relationships and the culture of instruction directly embrace the flow of education (Morrar, 2015). In this system, educational seriousness brings together a combination of educational progress and the creation of a healthy environment for education among learners (Audrey & Jaraji, 2016).

Organizational innovation means using tools and manpower to achieve goals and move to specific programs through non-recurring and helpful strategies (Aaya, 2015). Setting up a system that eliminates barriers to communication and allows members of an organization to communicate easily with each other and participate in decision-making and solving problems empowers them for innovation. Through democratic affairs and connections, individuals are encouraged to freely share their ideas and comment on each other's work, regardless of the position they have in the organization (Dombrowski, et al., 2007).

Although innovation is one of the essential requirements for commercial and competitive success, this component is not limited to commerce and economics, and includes various and very important sectors such as the educational system and academic and educational environments. Innovation in academic environments includes students, structural, and instructor settings. The basis of innovation in this field is the use of creative and active elements to teach in a new and innovative way to foster potential indices of individuals and the ability to actualize them in their specific form (Garafutdinova, 2015).

Various researches has shown that the tools and application of innovation in the educational system and academic environments are the fields of cultivation, growth of experience and thus they are the actuality of

the creativity of learners in this educational environment (Lashmanova et al., 2015). Many studies have shown that strong innovation-oriented cultures tend to perform much better than cultures that do not make innovation part of their daily lives (Dyer et al., 2011).

Organizations are vulnerable because of their limited capacity to deal with crises. The idea of a learning organization tends to change the attitude toward organizational growth and development, which suggests a change in attitude toward collective learning (Alvani, 2008).

Considering the importance of higher education institutions as a way of continuously providing a dynamic and competitive university service to identify the relationship between such institutions as learning organizations and their impact on organizational innovation is essential. The ability and need of higher education institutions to become learning organizations depends on whether they are capable of promoting innovation or not. Since each organization has very different operating conditions from others. The outcomes of this study help determine whether it is equally important for non-state higher education institutions to focus their resources on becoming a learning organization or not. Therefore, this paper shows the potential connections and the impact of the learning organization on organizational innovation in the field of higher education institutions, particularly on Islamic Azad University.

2. Literature Review

Gomez and Wojahn (2017) conducted a research on organizational learning capacity and its impact on innovation and performance in small and medium enterprises. The results showed that organizational learning capacity has a significant effect on innovative performance and learning ability has no positive and significant effect on organizational performance. Sedighi (2016) conducted a research on components of the learning organization and its impact on organizational innovation. The results showed that there is a significant relationship between creativity and learning organization. Kouhkan and Mousavi (2015) investigated the relationship between innovation and components of the learning organization (Case study: Azad University of Mazandaran province). The results of the research indicated that there is a significant positive correlation between the components of the learning organization and its dimensions (transparency of the ideal, leadership capability, experimentation, knowledge transfer, and teamwork) and organizational innovation in Islamic Azad universities in Mazandaran province.

Aghajani et al. (2015) conducted a research on the relationship between organizational entrepreneurship and the characteristics of a learning organization in private banks in Mazandaran province. The results showed that there is a positive and significant relationship between organizational learning and organizational entrepreneurship. There was also a positive and significant relationship between dimensions of learning organization and entrepreneurship. Safamansheh et al. (2015) conducted a research entitled "The Effects of Learning Organizational Components on Employer Performance" on employees of an insurance company. The results showed that the variable of the learning organization has a direct and strong relationship with the entrepreneurial performance of the employees. In addition, there is a direct and significant relationship between individual, team and organizational learning, and entrepreneurial activity, and 65% of the dependent variable variations of entrepreneurial performance can be predicted by the learner organization components. All related studies point to the direct and significant impact of the components of the learning organization on innovation in all organizations, especially in educational institutions. The purpose of this study was to

investigate the significant effect and a suitable model of learning organization components on innovation in Islamic Azad University and fitting the proper model.

3. Methodology

This research was descriptive-survey in terms of the data collection method. From the 271 statistical population according to Table 1, that included faculty members of Shabestar Azad University with academic degrees of professors, associate professors and instructors, 160 individuals were selected by stratified random sampling method according to the Cochran formula. In order to collect the required data and data, Goh learner's standard questionnaire (21 questions) and Saatchi et al. (2010), a standard questionnaire for organizational innovation (2010), including 24 questions, was used that were adjusted with 5-option Likert scale. The validity of the questionnaire was confirmed after the necessary changes in the content validity and structure of the questions. The reliability of the innovation inventory was obtained through Cronbach's alpha equal to $\alpha = 0.811$ and $\alpha = 0.843$ for learning organization. Data analysis was performed using Spss and Lisrel software. In this research, a confirmatory factor analysis was performed first and then the main model of the research was presented.

Table 1. Frequency of population and sample based on scientific rank

Scientific ranking	Frequency of population	Frequency of sample individuals	Sample frequency percentage
Professor	9	5	3
Associate Professor	13	8	5
Assistant Professor	98	57	36
coach	151	90	56
total sum	271	160	100

4. Finding

In order to better understand the study population, it is necessary to describe these data before statistical analyses. In addition, statistical description of the data is a step towards identifying the governing model and explaining them on the relationship between the used variables in the research. According to Table 2, descriptive statistics of all research variables are presented in terms of statistical indices. For instance, for the Leadership ability (LA) variable, the minimum of opinions is 1.00, the maximum value is 5.00 and the average and standard deviation of comments are respectively 3.64 and 1.9.

Table 2. Descriptive statistics of the research variables

variable	Abbreviation	observation	minimum	Maximum	average	Standard deviation	Variance
Learning organization	LO	160	1.84	4.60	2.9748	0.40684	0.166
Transparency of vision	TV	160	1.00	5.00	1.9283	0.80282	0.645
Leadership ability	LA	160	1.00	5.00	3.6413	0.08767	1.183
Experimentation and rewards	EXP	160	1.00	5.00	3.9067	0.79771	0.636
Knowledge Transfer	Kt	160	1.00	5.00	3.0400	0.05298	0.109

Team work and group problem solving	TW	160	1.00	5.00	2.3578	0.06643	0.109
Organizational Innovation	INN	160	1.00	5.00	3.5233	0.53117	0.282
cultural	CUL	160	1.00	5.00	3.4819	0.66207	0.438
Structural	STR	160	1.00	5.00	3.6185	0.55323	0.306
Human Resources	HR	160	1.00	5.00	3.4696	0.33542	0.406

In conducting factor analysis of the variable of the learning organization, one should first ensure if it is possible to use the existing data for the analysis. Calculating the KMO value indicates whether the data correlations are appropriate for factor analysis or not. On the other hand, Bartlett's test was used to ensure that the data is correct and the matrix of correlations that is the basis of the analysis is not zero in population. The results indicate the suitability of existing correlations between the data for factor analysis and the sampling adequacy as well. Considering the KMO number (greater than 0.7) and the significant number of Bartlett's test ($\text{sig} < 0.05$) it can be stated that the data is suitable for performing factor analysis and has the required conditions. The total values of the explained variance indicate that each factor explains and covers a percent of the variance of the variables.

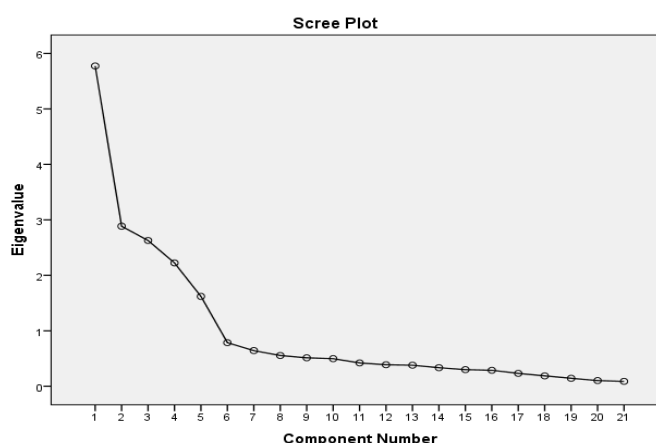


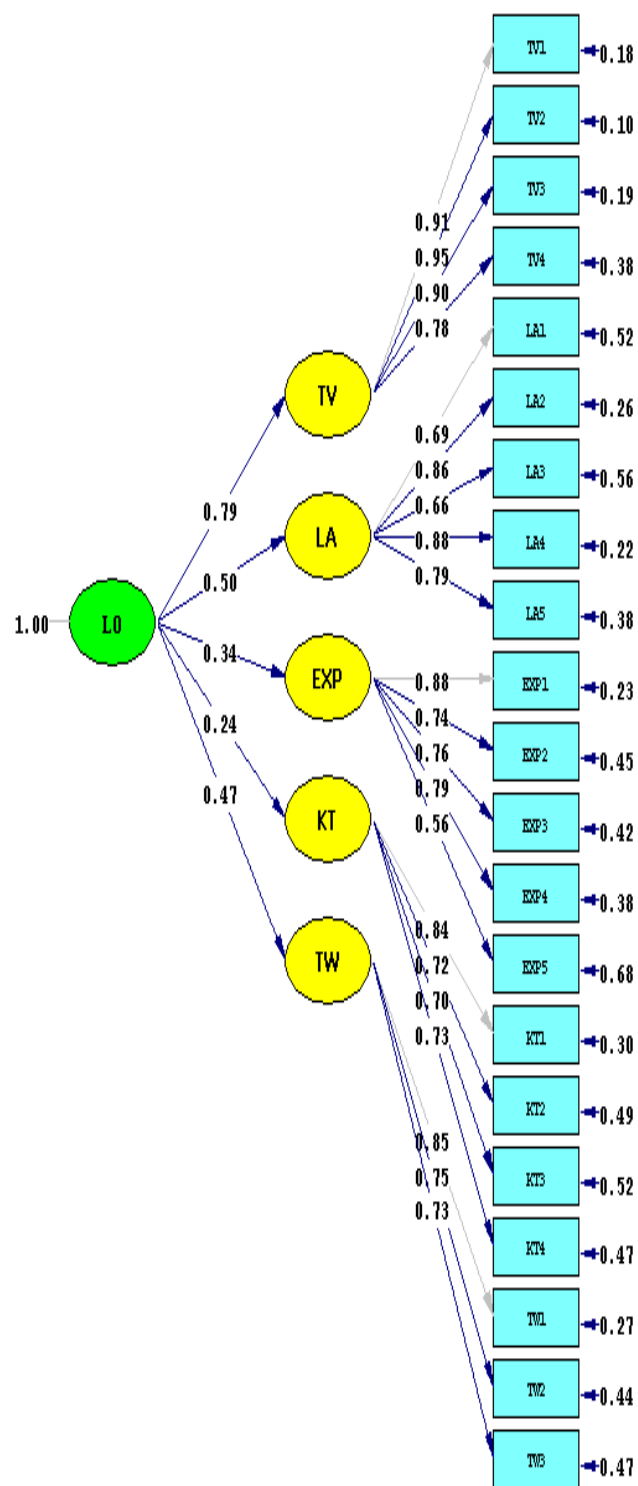
Figure1. Scree diagram of the learning organization factors

In addition, in the Scree graph, the eigenvalues for the learning organization factors are shown. The factors on the left are the real factors and those on the right are considered the error factors. the rotated matrix determines and factor correlation indicating the factor loadings factor of the variables greater than 0.5, so the variable is placed under the umbrella of the due factor, and indicates the role of each factor in the total variation (variance) of the due variable. In the case of transparency of vision factor, the maximum loading was 0.907 and the minimum was 0.825. in the factor of leadership ability and commitment, the maximum factor loading was 0.859 and the minimum was 0.777. In the factor of experimentation and reward the maximum factor loading was 0.89 and the minimum was 0.631. In the effective knowledge transfer the maximum factor loading was 0.854 and the minimum was 0.760. finally, in the teamwork and group problem solving, the maximum factor loading was 0.863 and the minimum was 0.817.

Table 3. factor rotated matrix

	Component				
	1	2	3	4	5
TV1	0.147	<u>0.896</u>	0.112	0.082	0.123
TV2	0.192	<u>0.907</u>	0.085	0.091	0.167
TV3	0.263	<u>0.872</u>	0.081	0.068	0.146
TV4	0.121	<u>0.825</u>	0.069	0.124	0.124
LA1	<u>0.784</u>	0.168	0.104	-0.028	0.075
LA2	<u>0.838</u>	0.135	0.065	0.053	0.037
LA3	<u>0.757</u>	0.177	0.154	-0.096	0.038
LA4	<u>0.859</u>	0.155	0.076	-0.011	0.007
LA5	<u>0.819</u>	0.056	0.110	0.137	0.087
EXP1	0.061	0.104	<u>0.879</u>	0.055	-0.093
EXP2	0.157	0.067	<u>0.787</u>	-0.018	0.034
EXP3	0.202	0.097	<u>0.805</u>	-0.014	0.014
EXP4	0.053	0.009	<u>0.832</u>	-0.041	0.058
EXP5	0.028	0.080	<u>0.631</u>	0.383	0.058
KT1	0.033	0.088	0.032	<u>0.854</u>	-0.017
KT2	-0.006	-0.010	-0.085	<u>0.805</u>	-0.006
KT3	0.004	0.138	0.033	<u>0.760</u>	0.063
KT4	0.012	0.083	0.097	<u>0.803</u>	0.068
TW1	0.099	0.140	0.082	0.055	<u>0.863</u>
TW2	0.046	0.126	0.049	0.055	<u>0.833</u>
TW3	0.036	0.177	0.069	-0.002	<u>0.817</u>

The structural model of the learning organization in a standardized state and in a significant state allows the researcher to test a set of regression equations simultaneously.



Chi-Square=538.92, df=184, P-value=0.00000, RMSEA=0.080

Figure 2. Factor Analysis Model of the Learning Organization in Standard Mode

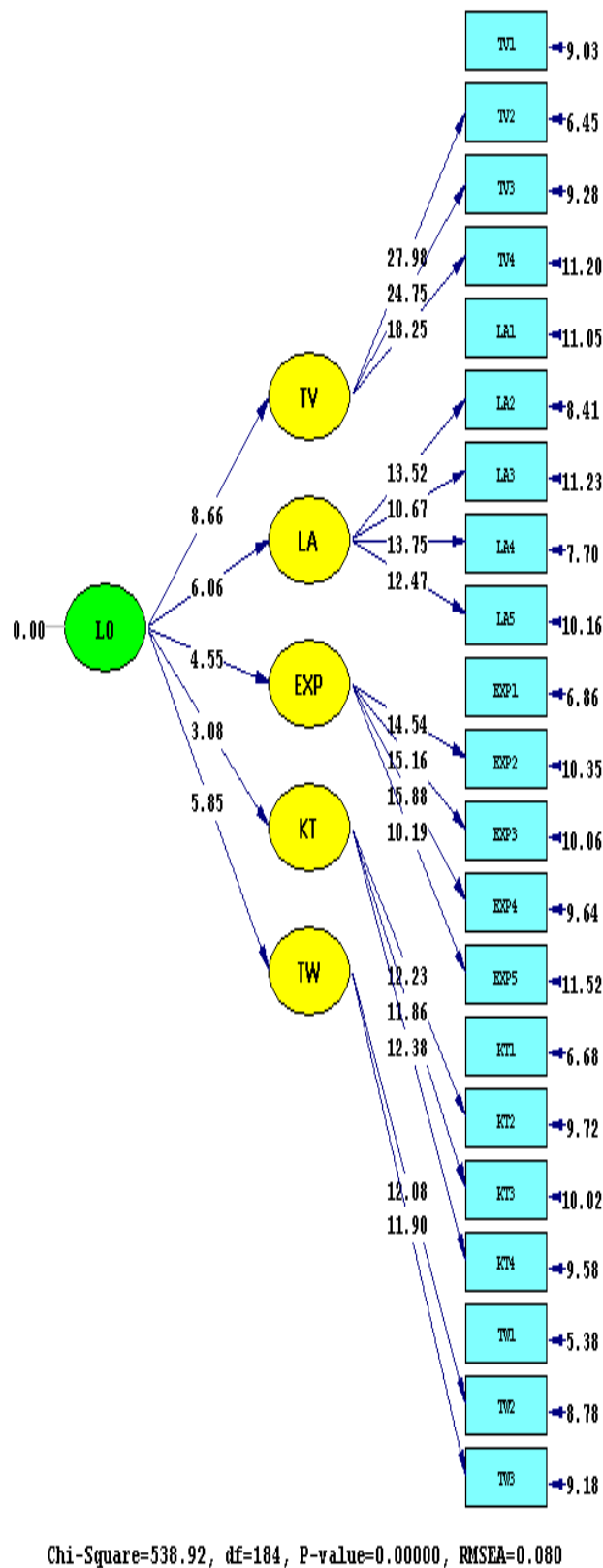


Figure 3. Factor Analysis Model of Learning Organization in a Significance mode

The results of the evaluation of goodness indices of the fit of the learning organization model with RMSEA value less than 0.08 and the values of PNFI, GFI, NNFI, CFI, RFI, AGFI, NFI, IFI greater than 0.9 and $\frac{\chi^2}{df}$ between 2 and 3 indicate a proper fit for the proposed model. The reliability and validity of the model depend on the strength of the relationships between the variables or the degree of correlation and factor load between them. The greater these factor loads are, the closer is the model fit to reality. In the factor analysis of the organizational innovation variable, initially, the KMO was calculated whose values always fluctuates between 0 and 1. This is how suitability of the existing correlations between the data is determined for factor analysis. According to the KMO number (greater than 0.7) and the significance number of Bartlett's test ($\text{sig} < 0.05$), it can be stated that the data is suitable for performing factor analysis and has the required conditions. In addition, the extraction shares of greater than 0.5 for all items except three questions indicate that all questions are appropriate in the process of factor analysis. The total explained variance shows that these questions form the three factors, and the first factor is 29.685 and the second factor is 20.780 and the third factor is 19.163%, and totally 69.627% of the variables is explained and covered, which is in fact the sign of the proper validity of the questions. The Scree graph shows the magnitudes of the organizational innovation factors.

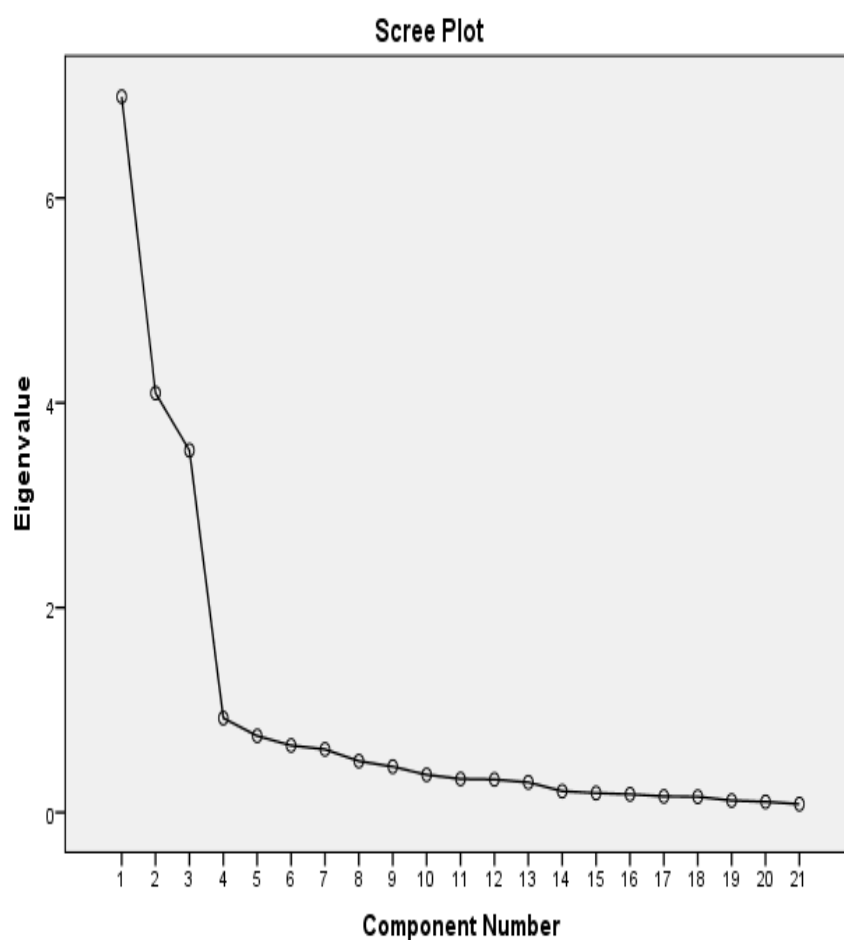


Figure 4. Scree diagram of organizational innovation factors

According to the obtained results, in the cultural factor, the maximum factor loading was 0.89 and the minimum was 0.756, in the structural factor, the maximum factor loading was 0.892 and the minimum factor loading was 0.747 and in the third factor, the maximum factor loading was 0.99 and the minimum was 0.715.

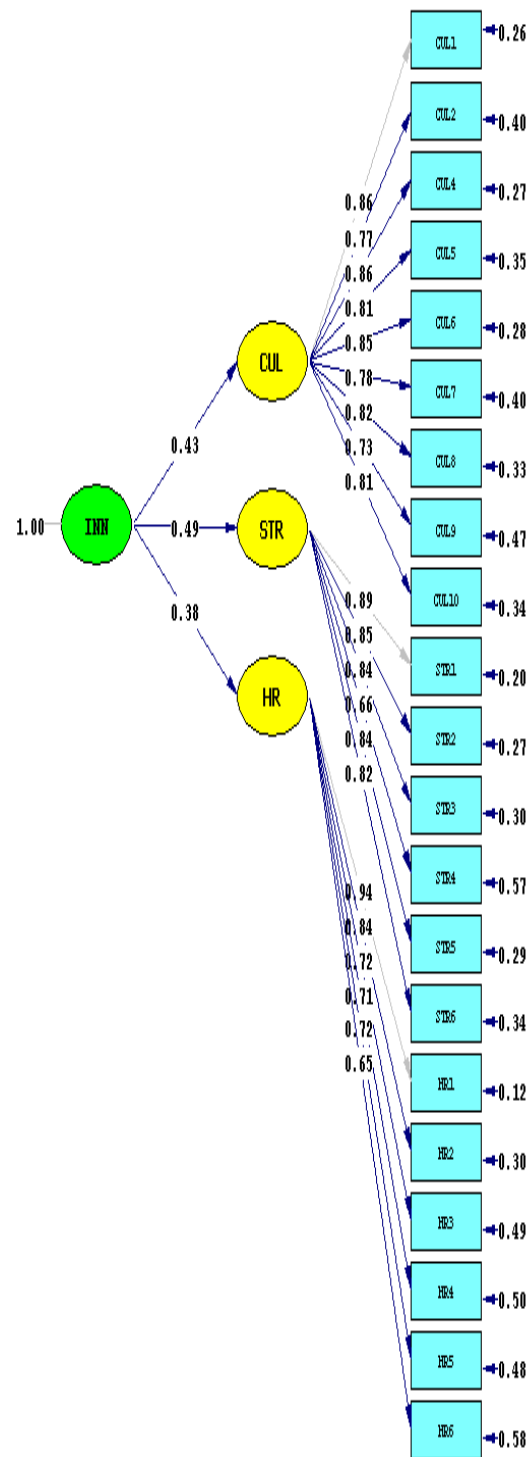
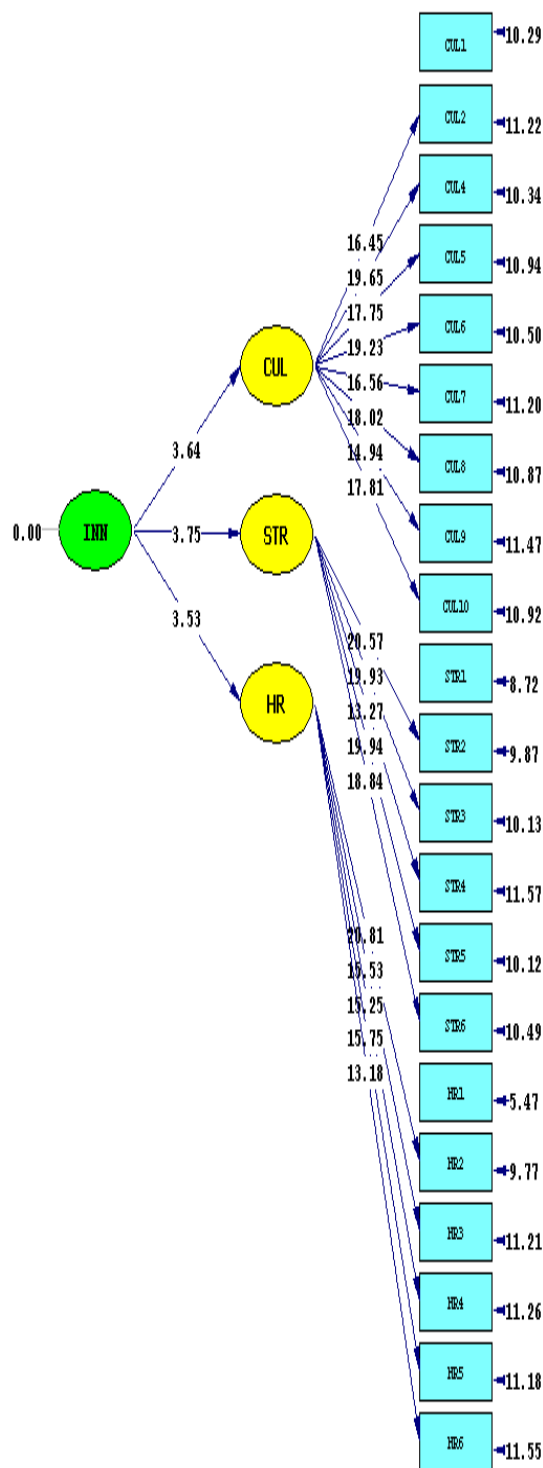


Figure 5. Factor Analysis Model for Organizational Innovation in Standard Mode



Chi-Square=528.97, df=186, P-value=0.00000, RMSEA=0.078

Figure 6. The factor analysis model of organizational innovation in significance mode

The results of the evaluation of goodness of fit of the organizational innovation model show that the model has a proper for fit. Investigating Goodness of fit of the structural model of the research also shows a proper fit for the model.

Table 4. Good Criteria for fitting the structural model of research

Goodness of fit criteria	Index name	Abbreviation	Obtained value	Acceptable Fit
Absolute fit indices	Goodness of fit	GFI	0.98	Greater than 90 %
	adjusted goodness of fit index	AGFI	0.96	Greater than 90 %
comparative fit indices	Non-normalized fit index	NNFI	0.93	Greater than 90 %
	Normalized fit index	NFI	0.96	Greater than 90 %
	comparative fit index	CFI	0.95	Greater than 90 %
	Incremental fit index	IFI	0.95	Greater than 90 %
	Relative fit index	RFI	0.97	Greater than 90 %
Parsimonious Fit Indices	Parsimonious normalized Fit Index	PNFI	0.94	Greater than 90 %
	Root Mean Squared Error Estimates	RMSEA	0.056	Smaller than 8 %
	Chi-square to degree of freedom		2.11	Smaller than 3

To calculate the impact coefficients, the Structural Equation Modeling Method was used by LISREL software. In Table 5, the path coefficients and significant variables among the research variables were obtained significantly for all five relationships at the level of 0.05 (t larger than 1.96 and smaller than -1.96).

Table 5. The results of direct relationship and significance coefficients of research hypotheses

Hypothesis	The causal relationships between research variables	abbreviation	Path coefficient (β)	significance (T-Value)	Test results
First	Transparency of vision --- Organizational Innovation	TV --- INN	0.39	5.18	Confirmation of the first hypothesis
Second	Leadership ability and Commitment --- Organizational Innovation	LA --- INN	0.23	3.52	Confirmation of the second hypothesis
Third	Experimentation and rewards -- - Organizational innovation	EXP --- INN	0.22	3.27	Confirmation of the third hypothesis
Fourth	Effective Knowledge Transfer -- - Organizational Innovation	KT --- INN	0.15	2.19	Confirmation of the fourth hypothesis
Fifth	Teamwork and group problem solving --- Organizational innovation	TW --- INN	0.33	4.83	Confirmation of the fifth hypothesis

According to Figures (5) and (6), the standardized coefficient (path coefficient) between two variables (transparency of vision and organizational innovation) was $\beta = 0.39$; and the coefficient of significance (T statistic) between these two variables was also $t = 5.18$ (Greater than absolute value of 1.96) that showed that the transparency element of vision has a positive and significant effect on the dependent variable and has been able to predict this variable. The path coefficient between two variables (leadership ability and commitment and organizational innovation) was $\beta = 0.23$, and the significant coefficient (t statistic) between these two variables was 3.52 (greater than the absolute value of 1.96), which indicated that this relationship

was significant. Therefore, it was concluded that the component of ability and leadership commitment had a positive and significant effect on the dependent variable and could predict this variable. The standardized coefficient (path coefficient) between the two variables (experimentation and reward and organizational innovation) was 0.22 and the significance coefficient (t statistic) between these two variables was also $t = 2.27$, therefore, it can be concluded that experimentation and reward has significant effect on organizational innovation and could predict this variable. The path coefficient between the two variables (effective transfer of knowledge and organizational innovation) was $\beta = 0.15$, and the significance coefficient (t statistic) between these two variables was also $t = 2.19$ (greater than absolute value of 1.96), therefore, it was concluded that experimentation and rewards has significant effect on organizational innovation and could predict this variable. The standardized coefficient (path coefficient) between two variables (teamwork and group problem solving, organizational innovation) was $\beta = 0.33$, and the significance coefficient (t statistic) between these two variables was $t = 4.83$ (greater than absolute value of 1.96), therefore, it can be concluded that teamwork and group problem solving has a significant effect on organizational innovation and could predict this variable.

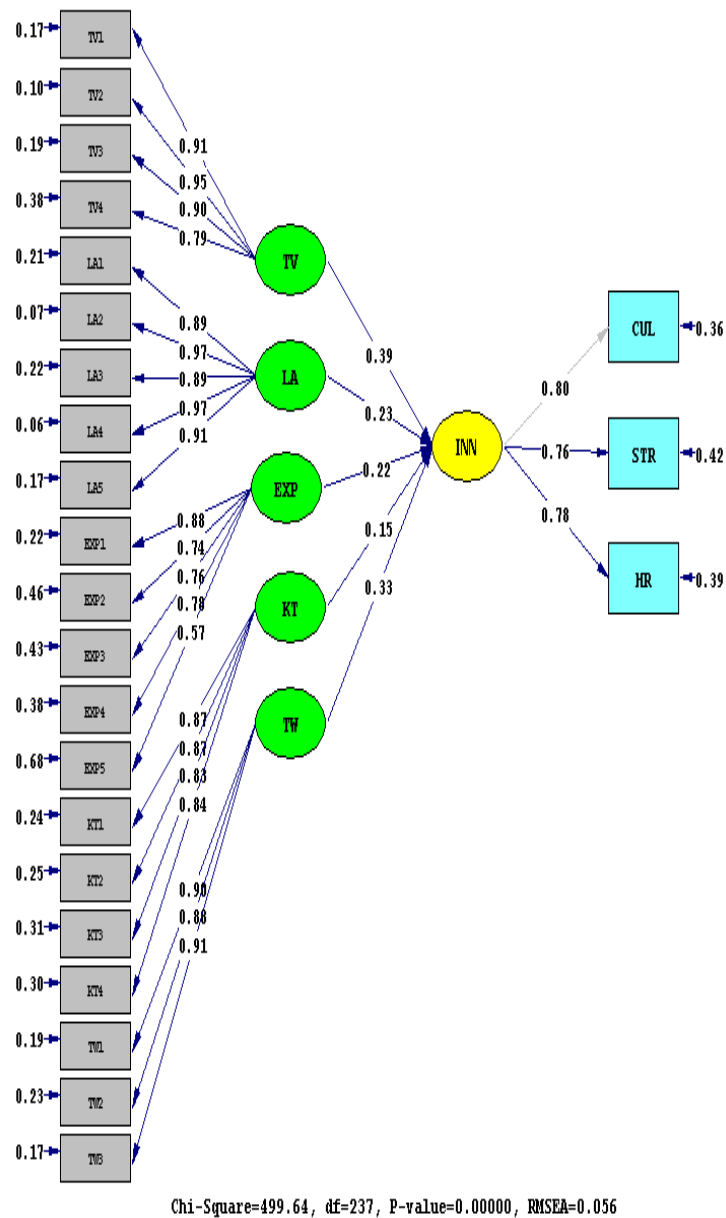
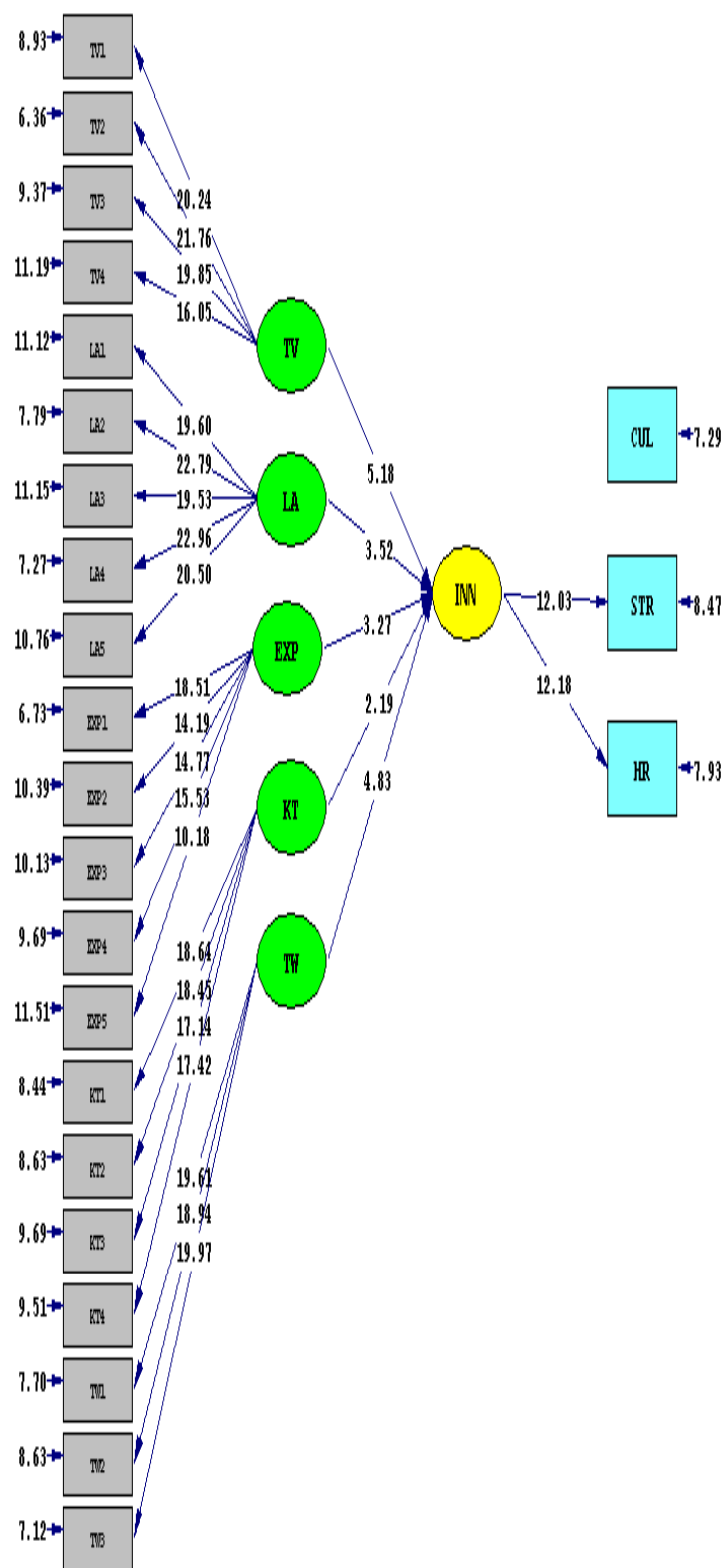


Figure 7. Structural model of the research in standard mode



Chi-Square=499.64, df=237, P-value=0.00000, RMSEA=0.056

Fig 8. Structural model of the research in a significance mode

5. Discussion

This research was conducted with the aim of investigating the effective components of learning organization on organizational innovation in Shabestar Islamic Azad University. Both components of the learning organization and organizational innovation in today's organizations have been arranged and organizations are learning to accelerate their goals and, if they lead and have a vision of learning and change, they can encourage organizational innovation and they can also improve the quality of academic output. The need for organizational change with the components of lifelong learning as a value is a condition for the survival of organizations. The hypotheses were tested for this research and the results were obtained. The element of transparency of vision had a significant effect on organizational innovation. The organizations need to make their goals and objectives transparent to all stakeholders, make the employees understand and push them to realize those goals with the least waste of time. Transparent expression increases employee commitment and accountability. The more loyal employees are to their organization, the better they feel about staying in the organization, the more satisfied they are with the organization, and the greater improvement along with the innovative ideas increases. Attention to individuals' knowledge as the starting point for improving productivity and improving the quality of outputs and services in the organization, and paying attention to knowledge and learning infrastructures are the priorities of upgrading programs and individuals in the organization. The results of this study were in line with the studies of Kouhkan & Mousavi (2015), Hoveida (2007). The ability and leadership commitment had a significant effect on organizational innovation. The leaders with a sense of belonging to an organization with the capabilities and potential of supportive leadership are factors that can influence the creativity and organizational innovation. Support of superiors from creative individuals increases the level of commitment of employees. In strong cultures, lifelong learning leaders are considered to be the conditions for survival of a changing world. Investors should welcome to employees capable of implementing innovative learning and innovation processes with a change in attitude. They should consider the material and spiritual rewards that are appropriate for providing innovative ideas and appropriate training to empower individuals to prioritize. The attention of organizations, especially in universities, to the production of applied knowledge and intellectual capital increase the incentive for creativity and, consequently, staffing innovation and can also reduce their stress. The results of this study were in line with Kouhkan & Mousavi (2015), Hoveida (2007), Ehsani Ghodsi & Seyed Abbaszadeh (2012), Azizi Nejad & Seyed Abbaszadeh (2010), Aghajani et al. (2015), Safamansh et al. (2015), Sedighii (2015).

The results showed that the experimentation and reward component had a significant effect on organizational innovation. The greater the staff's ability to innovate, the better and more support and innovation increases. If managers take changes and take more risks and appropriate rewards and pay systems, the innovation in the organization will increase. In an organization that considers salary as one of the motivating factors in employees to increase creativity and innovation, and even non-material motives, like the fair promotion system, they stimulate innovation in the organization. Lack of appropriate encouragement is one of the barriers to creativity. Accepting the risk and testing of organizations need creative and innovative leaders and staff, and make continuous changes in current affairs as a value to reduce waste at time and cost. To create an innovative learning organization, flexible programs and risk-taking of manpower, institutionalizing strong culture with horizontal structures that facilitate the communication, are required. The results of this study are in line with Kouhkan & Mousavi (2015), and Hoveida (2007). As the result of the fourth hypothesis, the effective transfer of knowledge on organizational innovation has a significant effect on organizational innovation. In a system that effective education and transfer of knowledge are considered as one of the most important stimuli of creativity, with the purposeful transfer of knowledge and skills, the capabilities of managers and employees are promoted; and people are introduced to creative thinking and the innovation and creativity of the staff is increased and the quality of individuals can be effective. The

existing knowledge to create competitive advantage as part of the resources of the learning organization is a significant change in organization. The change in learning and learning processes with the least waste of resources and forces, human resource innovation, the use of a flexible, and cohesive structure that sees innovation as organizational existential values, are induced by creating a learning organization. The results of this study are in line with with Kouhkan & Mousavi (2015), Gomez & Wojahn (2017), Safamansh et al. (2015), and Hoveida (2007). As the result of the fifth hypothesis, teamwork and group problem solving has a significant effect on organizational innovation. The more important the team is, the more supportive are the employees. In organizations that learning is a valuable and gaining experience through the involvement of all learners, the process of learning and education increases the self-esteem and goals in individuals. The results of this study were in line with Gomez & Wojahn (2017), Kouhkan & Mousavi (2015), Aghajani et al. (2015), Sedighi (2016), Ehsani Ghodsi & Seyed Abbaszadeh (2012), and Hoveida (2007), but didn't match with the study of Safamansh et al. (2015). In the end, considering the results, the following suggestions are presented: 1) adequate rewards and necessary resources should be considered for the presentation and implementation of innovative ideas. 2) Objectives should be clearly expressed and the new ideas of the employees should be applied. 3) In the organization, leaders should be committed. 4) To improve the ability of managers, appropriate and up-to-date trainings should be considered. 5) Talent management and planning should be considered for intellectual capital and intellectual property in the organization. 6) The individuals who try to implement innovative ideas should be supported, especially if they have failed to implement their ideas. 7) Investigation and risk of programming should be among cultures, norms, and values of the organizations.

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