Designing a Knowledge Management Deployment Model with an Organizational Learning Approach

Majid Salouki[1], Mahmoud Ghorbani[2*], Mohammad Reza Zabihi[3], Hossein Ali Niroumand[4]

1. PhD student Graduated from Human Resources Management, University of Isfahan, Isfahan, Iran.
2. Associate Professor of Educational Management, Islamic Azad University, Mashhad Branch, Mashhad, Iran.
3. Assistant Professor of Educational Management, Islamic Azad University, Mashhad Branch, Mashhad, Iran.
4. Professor of Mathematics and Statistics, Ferdowsi University of Mashhad, Mashhad, Iran.

Abstract

Purpose: The aim of this study was to design a knowledge management establishment model with an organizational learning approach in the Social Security Organization of North Khorasan Province.

Methodology: The research method was hybrid. The statistical population in the qualitative section included experts and specialists in management sciences and senior managers of the Social Security Organization, 20 of whom were selected using the principle of theoretical saturation as a non-probabilistic sampling method (purposeful and judgmental). In the quantitative part of the statistical population, including 1475 managers and employees of the Social Security Organization in the insurance and medical departments in 2016, who had at least a university degree with five years of service in the Social Security Organization, a sample of 314 people The two-stage stratified sampling method was selected with proportional allocation. The main research tool was the Knowledge Management Questionnaire, the validity of which was formally guaranteed using content and scientific components and components. The reliability of the questionnaire with Cranach's alpha coefficient was 0.89 for knowledge management and 0.85 for organizational learning.

Findings: After analyzing the information and testing the proposed model and the results obtained from structural equations, the final model of knowledge management deployment with 6 dimensions including (culture and value, organizational structure, organizational strategy, technology, process and human resources) and organizational learning It was finalized in 4 dimensions including (knowledge acquisition, knowledge dissemination, information interpretation and organizational memory). Also Findings showed that the human resources dimension has the greatest impact on the establishment of knowledge management and the two dimensions learning.

Conclusion: The results also showed that organizational learning is effective at 0.74 on the establishment of knowledge management. Based on this, it can be concluded that in order to establish knowledge management in the Social Security Organization of Khorasan Razavi Province, in addition to paying attention to the six dimensions of establishing knowledge management, attention to organizational learning and its four dimensions, especially the two dimensions of knowledge acquisition and knowledge dissemination is necessary.

∗ Corresponding author: mhgh2020@gmail.com

1. Introduction

A knowledge-based approach to highly intelligent information activity to maintain capabilities and overall success, in other words, to realize the best value of its knowledge assets, In particular, knowledge is the most strategically important source of the institution. Organizational learning is a field of knowledge in organizational theory in which educational models and theories about the method of learning and adaptation are one. Therefore, organizational learning is an intangible asset and its effects on organizational innovation are fully consistent with theory based on knowledge and the results of the relationship between organizational learning and organizational innovation can be explained by theory (Abdi and Amatsenin, 2014). Organizational learning is defined as a collective capacity based on cognitive and empirical processes and includes the acquisition, sharing and optimization of knowledge (Gilbert, et al, 2007). On the other hand, the establishment of knowledge management in any organization can be a key driver for creating innovation and creativity and maintaining it; Accordingly, successful knowledge management is closely related to the appropriateness of the processes of establishing knowledge management in an organization, which ensures the role of successful implementation and proper use of knowledge management, acquisition, growth and retention of knowledge in the organization. Undoubtedly, knowledge management in the coming years will be recognized as a need in the organization and will be used during organizational mechanisms and processes and will enable the emergence of innovation in modern organizations. Therefore, measuring knowledge and other intangible assets in organizational processes is very important (Haji Karimi and Batahi, 2009). However, despite the very effective role of knowledge management in improving the performance and effectiveness of the management system, it is still not considered and ignored in many organizations and institutions, and managers and supervisors of most organizations pay sufficient attention to human resources and knowledge in creating New Capacities and Development do not have the existing capacities to create organizational growth and development (Waluyo, Wibowo, 2011).

However, in this regard, the results of studies and preliminary studies show that organizational learning has an important mediating role in knowledge management and organizational innovation; however, there are still unknown relationships between knowledge management and organizational learning. Therefore, including organizational learning as an important aid for the subject under study (Abdi and Amatsenin, 2014) Social Security Organization of the country and for example (North Khorasan) currently with challenges such as unreasonable premiums of insurer obligations in social insurance, lack of knowledge and weakness of insurance culture in the community, especially scientific and educational centers, ،Weakness in the inadequate development of social security organizational resources in exercising supervision commensurate with the dispersion and breadth of the country, Weakness in the personnel database in order to pay attention to merits in appointments, In the absence of adequate development of social security organizational resources in the exercise of supervision commensurate with the distribution and extent of the country, the lack of a database of instructions, etc., is faced. Due to the existence of these problems and the extent of people covered, the existence of a knowledge management system and attention to the factors affecting its establishment according to the organizational learning approach can lead to improving the service system, increasing the capacity and skills of employees and. Therefore, this study aims to identify and explain the dimensions and components affecting knowledge and knowledge resources, ie knowledge management along with organizational learning capability in the Social Security Organization, in order to answer the question that the appropriate model of knowledge management in social security organizations with the approach what was organizational learning.

2. Methodology

The aim of this study was to design a knowledge management establishment model with an organizational learning approach in the Social Security Organization of North Khorasan Province. The research method was hybrid. The statistical population in the qualitative section included experts and specialists in management sciences and senior managers of the Social Security Organization, 20 of whom were selected using the principle of theoretical saturation as a non-probabilistic sampling method (purposeful and judgmental). In this section, by reviewing and studying various theories, theories, models and models related to the research topic along with collecting and reviewing the background and history of research and also using Delphi technique in three stages, the required data were collected and analyzed. Finally, a conceptual model derived from the Delphi technique for the establishment of knowledge acquisition with an organizational learning approach in social security was determined. In the quantitative part of the statistical population, including 1475 managers and employees of the Social Security Organization in the insurance and medical departments in 2016, who had at least a university degree with five years of service in the Social Security Organization, a sample of 314 people The two-stage stratified sampling method was selected with proportional allocation. The main research tool was the Knowledge Management Questionnaire, the validity of which was formally guaranteed using content and scientific components and components. The reliability of the questionnaire with Cronbach's alpha coefficient was 0.89 for knowledge management and 0.85 for organizational learning.

3. Findings

A: Demographic indicators showed that the majority of the panel of experts consisted of 85% men and only 15% of the respondent experts were women. The distribution of the degree of the expert group was another demographic variable studied. Findings from this variable showed that 15 members of the expert group had a doctorate degree and 5 had a master's degree.

Table1. Descriptive indicators of knowledge management

Dimensions	Sample size	minimum	maximum	mean	Standard deviation
Cultural and value	314	1	5	3/45	0/80
Organizational structure	314	2	5	3/21	0/63
Technology and technology	314	1/5	5	2/54	0/71
Organizational process	314	1	5	2/78	0/84
Organizational strategy	314	1	5	3/74	0/76
human resources	314	1	4/5	3/94	0/53
knowledge management	314	2/3	5	2/78	0/61
to educate	314	1	5	3/96	0/68
Dissemination of knowledge	314	2	5	3/82	0/81
Interpretation of information	314	1	5	2/98	0/92
Organizational memory	314	2	4/5	2/87	0/83
Organizational Learning	314	2/3	5	2/96	0/66

Examining the descriptive findings of each dimension of knowledge management presented in Table 1, it is observed that all dimensions have an average value higher than 2, so that among these six dimensions, human resources with an average of 3.94 has the largest average between It has other dimensions and technology has the smallest average (with a value of 2.54). The standard deviation of all dimensions is less than 1, which indicates an approximate agreement in the respondents' views on different dimensions of knowledge management. Also, the average knowledge management is 2.9, which is slightly lower than the average level (3). The resulting standard deviation for this variable is equal to 0.61, which indicates a high homogeneity of views and opinions of respondents about this variable. As can be seen all dimensions of organizational learning have average values less than 4, so that knowledge acquisition with a value of 3.96 has the highest average and organizational memory with an average of 2.87 has the smallest average value.

On the other hand, the standard deviation values are all dimensions smaller than 1, which indicates the relative agreement of individuals about these dimensions. The average of organizational learning is 2.96 with a deviation of 0.66.

Table2. Frequency distribution of experts' views on the dimensions and components of Organizational Culture with Organizational structure

variable	factors	Component	agree		disagree	
			frequency	Percent	frequency	Percent
Factors affecting the establishment of knowledge management	Organizational Culture	Existence of trust between employees	19	95	1	5
		Promoting teamwork and team building	17	85	3	15
		Existence of learning and innovation atmosphere between units	15	75	5	25
		Creating a suitable cultural context for the exchange of scientific experiences	13	65	7	35
		Encourage units to share knowledge with each other	15	75	5	25
		The rule of creative and critical thinking as a superior value	12	60	8	40
		Appropriate organizational culture for knowledge management transfer	16	80	4	20
		Existence of status and respect for people who share knowledge	16	80	4	20
	Organizational structure	Dynamic and knowledge-based structure	15	75	5	25
		Appropriate job description	11	55	9	45
		Existence of a specific program for the development of ideas	12	60	8	40
		Existence of rules and regulations for knowledge transfer	12	60	8	40
		Existence of proper communication between units	15	75	5	25
		No ambiguity in the job description	9	45	11	55
		Existence of independence and freedom of action for dissemination and application of knowledge	15	75	5	25
		Managers support knowledge and innovation	19	95	1	5

Table3. Frequency distribution of experts' views on the dimensions and components of the knowledge management model with organizational learning approach

variable	factors	Component	agree		disagree	
			frequency	Percent	frequency	Percent
Factors affecting the establishment of knowledge management	Organizational technology	Existence of knowledge storage centers and databases	12	60	8	40
		Existence of technology infrastructure	19	95	1	5
		Continuous and systematic update (system update)	18	90	2	10
		Quality of support for systems and hardware	12	60	8	40
		Internet access and speed and intranet	19	95	1	5
	Organizational process	Standard and clear processes for the knowledge management project	13	65	7	35
		Awareness of units of their role in the knowledge management project	14	70	6	30
		Existence of processes in the direction of learning and knowledge management project	16	80	4	20
		The level of acceptance of personal opinions of employees	13	65	7	35
		The rate of use of specialized knowledge journals	14	70	6	30
		Encourage employees to carry out research activities	16	80	4	20
	Strategy	Forming a special team to create knowledge management	14	70	6	30
		Manpower training and education	19	95	1	5

	Determining the responsibility for knowledge management	12	60	8	40
	Expertise of organizational units, their experience, flexibility and ability to create knowledge	15	75	5	25
	Familiarity with knowledge management and the desire to use and share knowledge in the organization	16	80	4	20
human resource	Holding training courses for employees to get acquainted with the concept of knowledge management	18	90	2	10
	Reward and encourage human resources to increase motivation	15	75	5	25
	Emphasis on the expertise and skills of human resources	18	90	2	10
	Motivate to share knowledge	16	80	4	20
	Having a sense of participation and willingness to learn	15	75	5	25

Table4. Frequency distribution of experts' views on the dimensions and components of organizational learning

variable	factors	Component	agree		disagree	
			frequency	Percent	frequency	Percent
organizational learning	Acquisition of knowledge	Control of important indicators of organizational performance by management	12	60	8	40
		Plan the issues and problems of the organization in a constructive and positive way by the management	15	75	5	25
		Benefit from the experiences of partners, suppliers and customers	15	75	5	25
		Learning new things through direct observation of phenomena and events within the organization by management	14	70	6	30
		To share the changes and developments of the organization for all employees	15	75	5	25
	Dissemination of knowledge	Awareness of employees about applying their knowledge in different areas of the organization	18	90	2	10
		Use of management information system	14	70	6	30
		Making your information and documentation (such as useful statistics and information, plans, new ideas, etc.) available to others by employees	14	70	6	30
		Integrate information and provide integrated information by management	13	65	7	35
		Using facilities outside the organization if the capabilities inside the organization are inefficient	16	80	4	20
	Interpretation of information	Having communication means (such as: telephone, e-mail, Internet, etc.)	17	85	3	15
		Encourage employees to communicate clearly with each other	13	65	7	35
		Lack of resistance of employees in facing new working methods	13	65	7	35
		Use of scientific and reference models and methods for decisions by management	12	60	8	40
		Removing obsolete information from the reach of employees by management	17	85	3	15
		Flexibility of the organization in the face of technological changes	17	85	3	15

Table5. Frequency distribution of experts' views on the dimensions and components of the knowledge management deployment model with organizational learning approach

variable	factors	Component	agree		disagree	
			frequency	Percent	frequency	Percent
Organizational learning	Organizational memory	Use of electronic equipment in communications	18	90	2	10
		Use information archives for decision making	15	75	5	25
		Existence of specific procedures for managing and accessing information	16	80	4	20
		Providing the possibility of growth of specialists and skilled forces in the organization	16	80	4	20
		Use of electronic storage facilities (such as databases, scanned documents) in the organization	15	75	5	25
		Existence of accurate and appropriate combination of skilled and specialized forces in the organization	18	90	2	10

Following Tables shows the ratio of pros and cons of experts in relation to the required dimensions and components of the knowledge management establishment model with an organizational learning approach in the Social Security Organization of North Khorasan Province. The results indicate that the majority of the identified components were approved by members of the experts. If the rate of agreement with the components is less than 70%, the index can be rejected. It can be seen that the rate of agreement with the 16 components was less than 70%. Therefore, in the second phase of the Delphi project, these components will be removed. In addition, the members of the expert group were asked to, if possible, the other components of the model of knowledge management establishment model with organizational learning approach in the Social Security Organization of North Khorasan Province, which are important and the researcher did not mention them in the questionnaire. Introduce. After performing the drawn model shown in Figure 1, it was found that for some components the value of t was less than the critical test level (t <1.96), so these components are not significant and should be removed from the model.
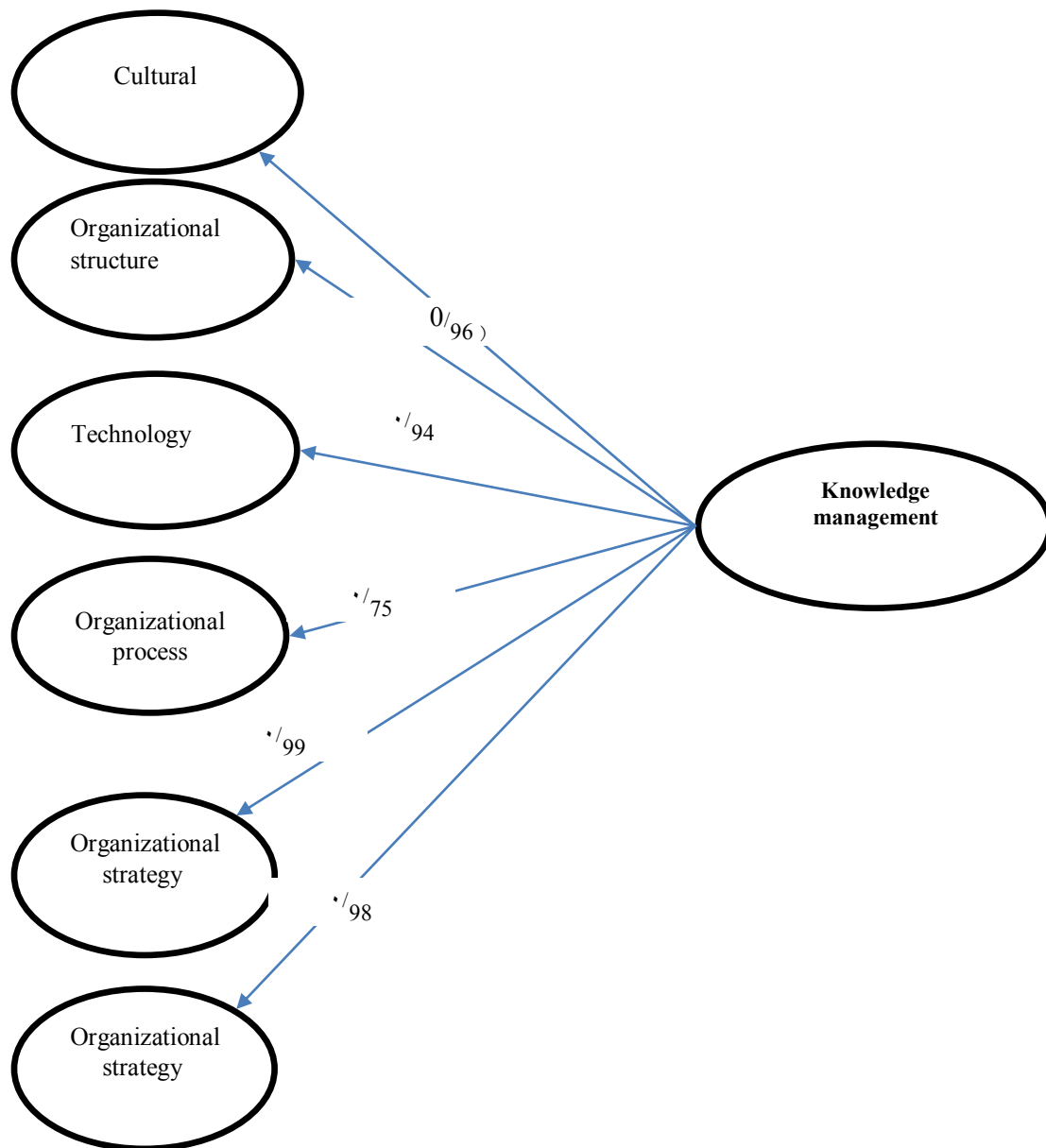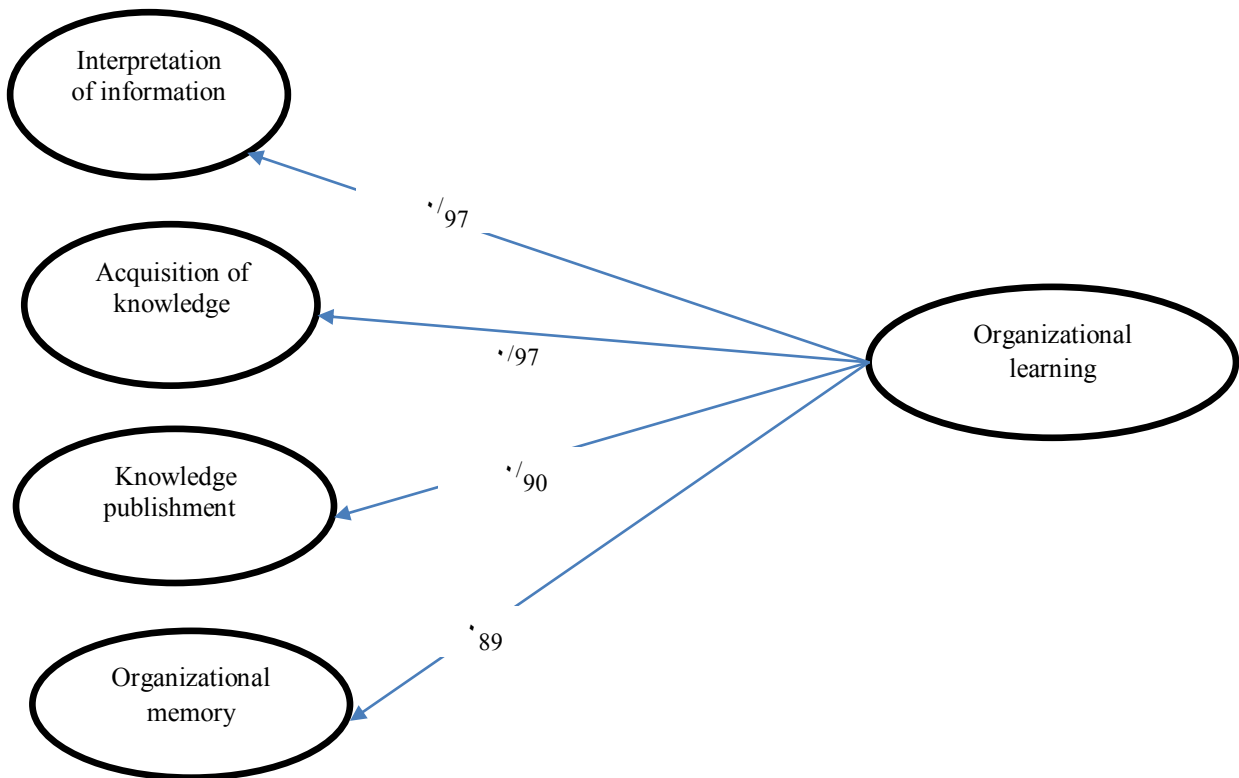
Figure1. Second-order knowledge management measurement model with standardized coefficients

In the model in Figure 1, the numbers displayed on the arrows are standardized coefficients. The standardized coefficients are the same as the model coefficients that have been transferred to the range of 1-1 to 1, and therefore it is possible to compare them for different variables. However, according to the results obtained from this model, it is> t> 1.96 for all components and therefore all these coefficients are significant (detailed results can be seen in the appendix). Therefore, all components have a significant role in explaining their dimensions. Table 4-13 now shows the fit indicators of the first-order knowledge management measurement model. If the values of the fit indices are in the desired range, they indicate the suitability of the model for the collected data. The second-order measurement model of organizational learning includes its various dimensions as latent first-order variables and the components of each of them as explicit variables. In this model, the latent variable is the second level of organizational learning that is displayed, which can be seen on the next page, in this model for all dimensions and components> 1.96. Therefore, all dimensions and components have a significant effect in this model.

Table6. Fit indicators of the second-order measurement model of components of organizational learning

(CFI)	(TLI)	(RMSEA)	(SRMSR)	χ^2/df
0/96	0/93	0/076	0/040	2/38
$\chi^2/df \leq 3; TLI, CFI \geq 0/90; RMSEA \leq 0/09; SRMSR \leq 0/10$
df =480				$\chi^2 = 1143/42$

Figure2. Second-order measurement model of organizational learning with standardized coefficients

Now, to consider the fit indices of the second-order measurement model of organizational learning, we can refer to Table 8.

Table7. Fit indicators of the second-order measurement model of organizational learning

(CFI)	(TLI)	(RMSEA)	(SRMSR)	χ^2/df
0/97	0/94	0/063	0/054	1/94
$\chi^2/df \leq 3; TLI, CFI \geq 0/90; RMSEA \leq 0/09; SRMSR \leq 0/10$
df =148				$\chi^2 = 286/57$

According to Table 8, all indicators are in the desired range. Therefore, the appropriateness of the second-order measurement model of organizational learning is also confirmed in proportion to the collected data. Given that in the model, path analysis coefficients are significant. It can be said that the appropriate model for establishing knowledge management with an organizational learning approach in the social security organization is as follows.
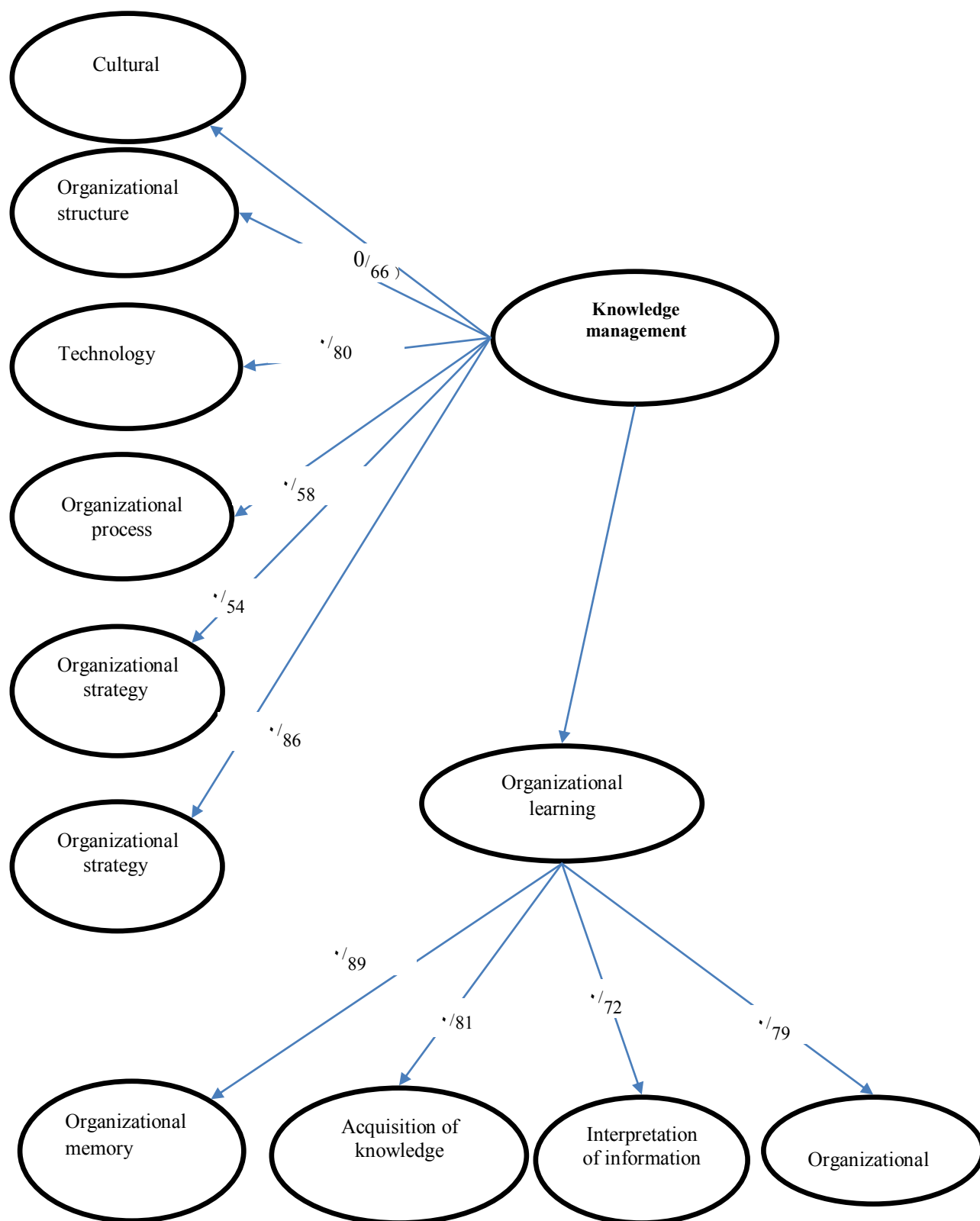
Figure3. Knowledge management deployment model with organizational learning approach with standardized coefficients of structural model

Figure 4 shows the appropriate model for establishing the model of knowledge management and organizational learning. This model after fitting the findings of the opinions of managers and senior experts

of the Social Security Organization of North Khorasan Province who have completed the research questionnaires and after all the various stages of modeling structural equations and examining the causal relationships and paths considered in the conceptual model of this Research was obtained. It should be noted that in the final model extracted from the quantitative part of the research, some components that had been approved in the qualitative part and opinion polls of members of the expert group were removed. Table 7 shows the omissions from the final research model.

4. Discussion

The results and findings of Delphi technique and structural equations in other theories, in line with the research findings showed that the establishment of knowledge management included 6 dimensions (organizational culture, organizational structure, organizational technology, organizational process, organizational strategy and human resources). The results showed that the most important of them is the human resources dimension. Considering the importance of human resources and their specializations and skills in any organization, it is suggested that the Social Security Organization of North Khorasan Province pay more attention to the human resources factor to establish knowledge management and prepare human resources for the optimal establishment of knowledge management. Be placed. The results of this section are based on the theories and researches of Davenport et al. (2000), Kogut, Zander (2006), Yeung Arthur et al. (2003), Choi and Lee (2003), Huang, Po Lai (2014), Danesh Fard, Zakeri (2009), Frost (2010), Ekore (2013), were in the same direction; Because in these studies, the above factors have been confirmed as effective factors on the establishment of knowledge management. Establishment of knowledge management in the Social Security Organization of North Khorasan Province had 6 dimensions of organizational culture, organizational structure, organizational technology, organizational process, organizational strategy and human resources. Since the results of structural equations showed that organizational learning can explain up to 75% of the establishment of knowledge management in the Social Security Organization, so for the successful establishment and implementation of knowledge management in the Social Security Organization, it is recommended to acquire knowledge and disseminate knowledge. The highest coefficients of effectiveness and significance were among the components of organizational learning; In the social security organization of North Khorasan, special attention should be paid (in order to acquire knowledge, it should first be categorized in the organization and implemented in the organizational structure; And appropriate regulations, documentation of organizational experiences and narratives, etc. In connection with the dissemination of knowledge, the necessary use should be made of information technology; Knowledge transfer plays a significant role). In fact, it is suggested that in order to improve the level of the knowledge acquisition component through; Designing the problems and issues of the organization in a constructive and positive way, using the experiences of partners, suppliers and consultants, learning new cases through direct observation of phenomena and events within the organization, etc., which can certainly be considered first in improving knowledge and The successful establishment of knowledge management will be effective in the social security of North Khorasan.

The researcher faced many limitations and obstacles to conduct this research and to solve it and achieve realistic results, spent different time and money, the most important of which is the time limit for collecting survey data and completing questionnaires in field operations. The nature of the sample in the present study, which was managers and senior experts of the Social Security Organization of Khorasan Razavi Province, was one of the problems and obstacles of this study. Also, the non-cooperation of some respondents and also the resignation of some members of the expert group in different stages of Delphi technique, has led to a decrease in the number of members of the expert group and deprivation of their views and opinions. On the other hand, the inability to control and investigate the role of other factors affecting the knowledge management establishment model was the most important limitation of the present study. In this study, the establishment of knowledge management in the form of 6 main dimensions and also

with emphasis on the organizational learning approach in the form of 4 dimensions was investigated. Undoubtedly, other factors and variables are involved in the construction of this model that the researcher has not been able to study and control other effective factors in the model due to time constraints and scope of research. It is suggested accordingly; Managers of the Social Security Organization of North Khorasan Province, considering the role and position of knowledge management in this organization, pay attention to all dimensions and components of the proposed model and make the necessary plans based on them to improve the quality of knowledge management indicators. In fact, the managers of the organization should have dimensions and components such as cultural and value dimension (creating and strengthening trust between employees, developing a culture and atmosphere of learning and innovation in the organization, encouraging and supporting organizational units to share knowledge with each other, etc.); Dimension of organizational structure (dynamic structure of knowledge-based organization, creation and strengthening of appropriate organizational relationships between units, comprehensive support of managers for the creation and development of knowledge and innovation in the organization, etc.) and most importantly attention to the dimension of human resources (specialization of tasks and Activities of organizational units, increasing the level of knowledge and providing the necessary training to familiarize all managers and employees with knowledge management and increasing the willingness to use it in the organization in various ways, including increasing material and spiritual rewards, improving organizational climate and culture for participation and willingness to participate, Manpower learning in the organization and 2). Also, according to the final model obtained from the main research question, the dimensions of organizational learning can be considered effective on the establishment of knowledge management. In fact, according to the significant dimensions of organizational learning (information interpretation, knowledge dissemination, knowledge acquisition and organizational memory) can be assured up to about 75% in the success of knowledge management implementation in the North Khorasan Social Security Organization.

In this regard, practical suggestions such as the following can be proposed: 1- Holding courses and workshops for employees to get acquainted with the concept of knowledge management (of course, courses and workshops should be leveled and held separately for managers and employees with different topics). Also, training courses should not only be in the form of classes or seminars, these courses can be in the form of visits to successful organizations in the implementation and establishment of knowledge management, or can be in the form of recreational camps or brainstorming sessions and the like. 2- Encouraging employees to share knowledge; these incentives can be planned in the form of material and spiritual rewards to provide the maximum speed to achieve the necessary ground for knowledge sharing in the North Khorasan Social Security Organization. In this regard, the development of appropriate regulations or instructions is required. 3- Creating a competitive environment (by techniques and methods such as implementing BSC balanced scorecard, increasing the level of flexibility of the organization, is the ability of the organization to adapt to environmental changes, etc.) to share knowledge among employees of different departments of the organization. And by sharing knowledge, they can be effective in this regard.

References

Abdi K, AmatSenin A. (2014). "Investigating the impact of knowledge management on organizational innovation: conceptual framework". International Research Journal of Applied and Basic Sciences.

Choi B, Lee H. (2003)." An empirical investigation of KM styles and their effect on corporate performance". Information and Management, 40 (5): 403-417.

Danesh Fard K, Zakeri M. (2009). "Study of the effect of knowledge management on strengthening the competitiveness of consulting engineering companies". Despair Strategy, No. 19.

Davenport Thomas H, Prosak L. (2000). "Knowledge Management: Success in an Information-Based Global Economy." Translated by Hassan Rahman Sarsht, Tehran: Sapco Publishing.

Ekore J. (2013). "Impact of key organizational factors on knowledge transfer success in multinational enterprise". Management, Vol. 19.

Frost A. (2010). "Organizational Learning Theory from a Company-Wide Perspective.

Gilbert N, Petra A, Andreas P. (2007) "Learning in innovation networks: Some simulation experiments", Physica A, (378): 100-109.

Haji Karimi A, bataee A. (2009) "Management of intellectual capital". Commercial Publishing Company, Volume 1, Tehran.

King W. (2015). "Knowledge Management and Organizational Learning". Springer Science+Business Media, LLC. Knowledge management cycle processes based on factors affecting the success of knowledge management". Science and Technology Policy, 2(2).

Kogut B, Zander U. (2006). "What firms do"? Coordination, identity, and learning. Organization science, 7(5): 502-518.

Waluyo R, Wibowo M. (2011). "Modelling of Knowledge Management, Corporate Culture and Performance in Construction Firms". J. Basic. Appl. Sci. Res., 1(11): 2286-2292.

Yeung Arthur K, Ulrich David O, Nason Stephan W. Ann Yon Glinow M. (2003). "Organizational learning capability". New York, Oxford university press.