Design of Organizational Memory Management Model in the Education System in Mazandaran Province

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Abstract

Organizational memory is a system that in addition to store the existing knowledge in organization, always provides and reminds useful information to the organization staff on time and develops and improves re-use of knowledge created by the organization staff. Organizations need to develop and adapt a model of organizational memory in implementation of their affairs; the challenges of management are identified and showed by this developed model. That is called organizational memory management. This study has been conducted for the aim to design an organizational memory management model in the Education System in Mazandaran Province. Statistical population is 40823 persons of the Education in Mazandaran Province. The sampling method is stratified random and for sample determination 381 persons selected as a sample based on a Cochran formula. The data gathering tool has been conducted by researcher made questionnaire. Content validity was used to determine the validity, and its reliability was examined by Cronbach's alpha coefficient, and the amount of 0.801 was calculated. Research data was analyzed in two descriptive statistical levels to determine the frequency and percentage mean, standard deviation - tilt and elongation, minimum and maximum, and diagrams were analyzed in the inferential statistics level from multivariate regression test, factor analysis and internal consistency. Analysis of the results showed that the organizational memory management model in the education system is a linear structure .The important suggestion is that individual knowledge components and the staff memory of organization culture, organization technology, organizational communication, organization background, change and transformation of the organization and organization structure are the builder components of organizational memory management model in the education system.

Keywords: *organization memory, organizational memory management, organizational memory management model, the education system*

1. Introduction

The creation and improve organizational memory is one of the educated intellectual resources management methods. Organizations should keep knowledge about past efforts and environmental conditions in their memory. When your organization teaches something, then its result should be accessible to prevent reinventing.

Organizational memory is not only as a tool and means to collect and preserve knowledge, but also is a means of sharing knowledge.

The results of the applying organizational memory is elevation of the related organization competition ability through improving management of its existing knowledge and exploring the experience gained from previous projects and reuse them to avoid repeating past mistakes.

Therefore, the organizational memory can be considered as a core of knowledge management system in an organization that personal and collective knowledge existing in an organization can be shared and reused by its creation (Ayazi and Shams Aleini, 2006, p. 3).

Following factors play a role in creation of organizational memory

1. The staff memory: part of the organization memory is in the minds of people who are willing to acquire knowledge based on experience. Experience is meant to examine and learn from what you examined which helps the staff to improve their performance in the organization. (Setej, 2000, p. 405)
2. Individual knowledge: individual knowledge critically depends on every individual within the organization that

emerges in people following the experiences, skills, and personal knowledge, and it does not easily provide the explicit and objective expression. (Kiskin, 2008, p. 16)

3. Organization Culture: As personality (which means constant and stable series of characteristics) is defined for the individuals, personality can also be defined for organizations. Organizational culture is a set of basic assumption that is created, discovered, and developed by the organizational members in dealing with the problems, adaption to the environment and achievement to internal unity and cohesion and it has been proven that they are useful and valuable and therefore they transported to new members as the correct way of perception, thought and feeling. (Toosi, 2006, p. 3)
4. Information Technology: Technological knowledge is about ways of doing affairs. Technology is related to hardware and software computer for processing, storing and transmitting information. Information technology is the knowledge and skills in all aspects of computing, storage and retrieval of information and communication (Doroodchi, Nickmehr, 2014, p. 26)
5. Communications: is an exchange of messages, opinions, or attitudes that led to understanding between the sender and the receiver. Communication in organization and group plays four major efforts: control, incentives creation, emotions and information show, behavior of members can be controlled by the communication in several ways. Communications can improve incentive phenomenon. (Hoy and Miskel, translated by Syed Abbas Zadeh, 2008)
6. Organization Background: organizations like living organisms have a curve (periods) lifetime or life cycle. What organizations during each of the courses earn or lose is called organization background. (Edizes, Sirous translator, 2009, p. 104)
7. Organization Change and Transformation: change and conversion and transformation are generally transferred from an existing state to another state, whether pleasant or unpleasant. So changes may be positive and favorable or negative and unfavorable. (Aboudi, 2011, p. 89)
8. Organization structure: organizations determine necessity of formal coordination of organization member interaction patterns, organizational structure stipulates that how tasks are diagnosed, we know structure as a component of organization which has been composed of complexity elements of formalization, centralization. (Robbins, translated by Parsaeian and Aerabi, 2008, p. 159)

2. Research Methodology

The research method regarding to subject neutrality is survey. The statical population in this research is the staff whom worked in the education system in Mazandaran Province in 2004-2005. The number is 40823 persons, and sampling method is stratified random, and Cochran formula has been used to determine sample size.

According to this 381 persons have participated in this research. The questions' test was examined by utilizing from the opinions and guides of consultant and guide master to achieve the test validity in this study.

In this study by primary performance of questionnaires on 30 persons of expert masters has been conducted to determine reliability that questionnaires final coefficient has been achieved based on Cronbach's alpha of 0.801 in such a way that descriptive statistic was used to describe demographic characteristics, age kind, generic, education level, service experiment.

Frequency, percentage mean, minimum and maximum and diagrams in the inferential statistics level from multivariate regression test; factor analysis was used to achieve the relationship between variables with each other.

3. Research Findings

3.1 Hypotheses

1. Institutional memory management model in the education system is a linear and structural equation.
2. Credit rating of the proposed model from the viewpoints of experts, are confirmed more than 80% on average.

Table 1. Frequency distribution of population and sample

	Number	Percentage
Sample	381	100%
Population	40823	100%

Table 2. Frequency distribution of education

Group	Number	Percentage	Frequency Integration
BS	248	65%	248
MSc	118	31%	366
PhD	15	4%	381
Total	313	100%	-

Table 3. Frequency distribution of work experience

Group	Number	Percentage	Frequency Integration
5 to 10 years	95	25%	95
11 to 20 years	172	45%	267
20 years and older	114	30%	381
Total	381	100%	-

In response to the first hypothesis, first it is necessary impact of factors or capabilities to be assessed as a whole on memory management of the organization. Here this work was done by using multivariate regression. So amount of each of the underpinning variables - under study capabilities - were evaluated on the every single memory management capabilities of organization Shows amount of relationship between variables of technological meta-ability, organizational culture, organizational structure and meta-ability of organization background with the overall meta-ability of knowledge.

Table 4. Regression coefficient

Model	Not-Standardized coefficient		Standardized coefficient	T statics	Significant level
	B	Error of criteria	beta		
Meta-ability of technology	071.0	035.0	391.0	0.1	042.0
Organization culture	172.0	042.0	341.0	1.4	000.0
Organization structure	048.0	047.0	359.0	0.2	003.0
Meta-ability of organization background	306.0	061.0	224.0	9.4	000.0

Regarding to table 4 we found that: all changes include meaningful relationship and effective portion in specification of the amount of dependent variable changes and among them technological meta-ability is the most effective variable with the most amount of beta 0.39, and organization structure with 0.36 and organizational culture with 34% and organization already meta-ability similarly with 0.22 are placed in next position. The variables are meaningful in the alpha level 1% and 5%.Regarding to constituent capabilities, the process of organization memory management in educational system, should be investigated by the use of analysis technic of direct and indirect variables relationship in order to present the model, and also evaluated by using general and partial coefficients of investigated paths, in order to (independent) precede and transpose (dependent) the variables for prioritizing. To analyze the path first should determine main and effective variables by the use of regression coefficient of several variables and then respectively replacing the new variable, the amount of alpha, beta and t which has relationship with other dependent variables.

Based on the table 5 shows organization memory management as a general (dependent variable) for other variables.

Table 5. Regression coefficient

Model	f	r	Not-Standardized coefficient		Standardized coefficient	T statics	Significant level
			B	Error of criteria	beta		
Meta-ability of technology			278.0	064.0	268.0	3.4	000.0
Organization culture			189.0	045.0	233.0	1.4	000.0
Organization structure	000.0	77.0	114.0	036.0	201.0	1.3	002.0
Meta-ability of knowledge			242.0	042.0	337.0	7.5	000.0
Meta-ability of organization background			167.0	055.0	167.0	0.3	002.0

Based on above table knowledge meta-capability with the alpha 0.000 and beta 0.34, has the most amount of variance

specification of organization memory management. Table 6 shows the meta-ability as a dependent variable for other variables.

Table5. Regression coefficient

Model	r	Not-Standardized coefficient		Standardized coefficient	T statics	Significant level
		B	Error of criteria	beta		
Meta-ability of technology	59.0	261.0	064.0	228.0	2.4	000.0
Organization culture		179.0	045.0	243.0	3.4	000.0
Organization structure		126.0	036.0	218.0	9.2	000.0
Meta-ability of organization background		159.0	055.0	157.0	1.2	001.0

Based on above table organization culture with the alpha of 0.000 and beta of 0.24 has the most amount of variance specification of organization memory management. Hence is set as a dependent variable in the next step. Table 6 shows the dependent variable for the other variables.

Table 6. Regression coefficient

Model	r	Not-Standardized coefficient		Standardized coefficient	T statics	Significant level
		B	Error of criteria	beta		
Meta-ability of Technology	62.0	278.0	064.0	268.0	3.4	000.0
Organization culture		114.0	036.0	181.0	1.3	002.0
Organization structure		167.0	055.0	167.0	0.3	002.0
Meta-ability of organization background						

Based on above table organization culture with the alpha 0.000 and beta 0.27 has the most amount of variance specification of organization memory management. Hence is set as a dependent variable in the next step. Table 7 shows the meta-ability as a dependent variable for other variables.

Table 7. Regression coefficient

Model	r	Not-Standardized coefficient		Standardized coefficient	T statics	Significant level
		B	Error of criteria	beta		
Organization structure	68.0	157.0	045.0	22.0	0.3	000.0
Meta-ability of organization background		154.0	031.0	167.0	1.1	000.0

Based on above table organization culture with the alpha 0.000 and beta 0.22 has the most amount of variance specification of organization memory management. Hence is set as a dependent variable in the next step. Table 8 shows the already beta-ability as a dependent variable for other variables.

Table 8. Regression coefficient

Model	r	Not-Standardized coefficient		Standardized coefficient	T statics	Significant level
		B	Error of criteria	beta		
Meta-ability of Organazation background	71.0	114.0	036.0	41.0	1.3	002.0

Based on above already table beta-ability of organization with alpha 0.000 and beta 0.41, it is obvious that there is strong relationship between these two variables. According to gained information of regression analysis and above path, the diagram is recovered as follows.

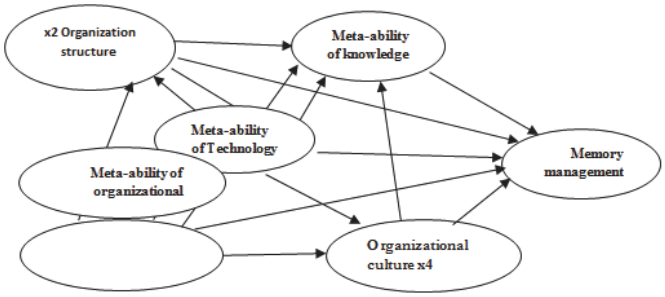

Figure 1. Analysis of achieved path of regression

To determine direct and indirect influence of each main variable (x) and substituent (y), following action was done: first main and direct influence of each variable is determined, then all indirect paths which lead the variable towards aimed variable, raising coefficient of each path is determined, sum of gained coefficients of indirect paths are considered as indirect variable.

Finally total of direct and indirect gained coefficients is determined as the amount of overall influence and is routed in terms of the case study action. Based on above diagram, the already organization beta-ability is considered as an end dependent variable regarding beta function and meaningful level. Based on mentioned information in diagram: Variable direct effect of meta- ability organization background on the memory management of organization

p1.6=0.18
Indirect effect A=p1.2*p2.5*p5.6=0.41*0.17*0.33=0.02
B=p1.3*p3.5*p5.6=0.22*0.23*0.33=0.01
C=p1.5*p5.6=0.15*0.33=0.04
D=p1.4*p4.6=0.16*0.23=0.03
Total direct and indirect affect 0.02+0.01+0.04+0.03=0.1
0.1+0.18=0.28
Variable direct effect the organization structure on the memory management of organization
p2.6=0/18
Indirect effect
A=p2.3*p3.4*p4.6=0.16*0.26*0.23=0.09
B=p2.3*p3.5*p5.6=0.16*0.23*0.33=0.01
C=p2.3*p3.6=0.16*0.26=0.04
D=p2.5*p5.6=0.17*0.33=0.06 Total direct and indirect effect
0.06+0.09+0.01+0.04=0.2
0.2+0.18=0.38
Variable direct effect the organization structure on the memory management of organization
p3.6=0/27
Indirect effect A=p3.5*p5.6=0.23*0.33=0.07
B=p3.4*p4.6=0.26*0.23=0.005
C=p3.4*p4.5*p5.6=0.26*0.14*0.33=0.01
Total direct and indirect affect 0.07+0.005+0.01=0.13
0.13+0.27=0.40
Variable direct effect the organization structure on the memory management of organization
p4.6=0.40
Indirect effect
A=p4.5*p5.6=0.14*0.33=0.04
Total direct and indirect affect 0.04+0.30=0.44
Variable direct effect the organization structure on the memory management of organization

According to the above diagram and the effectiveness amount of each of capabilities on organizational memory management, can be now presented following model.

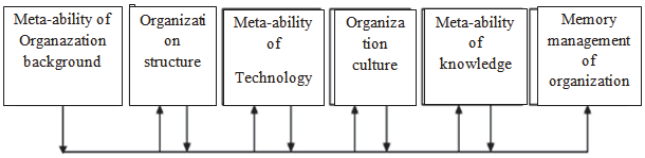

Figure2. Organizational memory management model in education system

Second hypothesis: in average the more 80 percent of educational experts confirm the proposed model in the study.

In special vector method, always achieved weight by using special vector method represents the numbers correlation obtained of this method and the correlation is significant. In accordance with the following dimensions, were asked the experts to allocate points of 9, 7,5,3,1 to each dimension with respect to the questions. Standard rating to dimensions is as follows: Very low, low, medium, high, very high, then, according to the special vector method achieved dimensions weights and at the end according to the results obtained was calculated rating to model. Table 9 shows the dimensions of the average rating in viewpoint of expert.

Table 9. External evaluation scores of the proposed model

Row	Dimensions	Mean	Weighted average
1	Philosophical Foundations	1.8	51.0
2	of objectives	5.8	69.1
3	Theoretical foundations	4.8	56.0
4	Conceptual Framework	2.8	68.0
5	Compatibility of objectives, with components	5.8	21.0
6	Accuracy of Primacy and regency of components	7.8	48.0
7	Compatibility with existing literature.	3.8	16.0
8	Components of objective	2.9	00.1
9	Ability to update	1.9	33.0
10	Applicable	4.8	20.0

Based on above table model 8.44 is from 9. If we will calculate the validity percent it would be 84% which is appropriate percent, therefore the proposed model is valid and it means that educational experts confirmed the proposed model of organization memory management.

Table 10 shows the evaluation matrix of internal correlation of proposed model of organization memory management in educational system.

Table 10. Evaluation matrix of internal correlation of proposed model of organization memory management in educational system

	Theoretical foundations	Goals	Conceptual Framework	Compatibility targets with, components	Accuracy of Primacy and regency of components	Compatibility with existing literature.	Objective component model	Ability to Update	Philosophical Foundations	Executive Steps
Theoretical foundations		41.0	43.0	25.0	29.0	21.0	20.0	24.0	45.0	21.0
Goals			37.0	27.0	39.0	30.0	41.0	24.0	31.0	33.0
Conceptual Framework				31.0	36.0	27.0	35.0	21.0	29.0	31.0
Compatibility targets with, components					24.0	41.0	30.0	33.0	26.0	21.0
Accuracy of Primacy and regency of components						31.0	27.0	31.0	34.0	21.0
Compatibility with existing literature.							24.0	21.0	21.0	33.0
Objective component model								21.0	21.0	31.0
Ability to Update									26.0	36.0
Philosophical Foundations										27.0
Executive Steps										

Based on above table, there is an applicability of acceptable correlation between the proposed model dimensions include philosophical principal dimension, goals, theoretical principals, perceptive frame, goal adaptation with components, accuracy of precedence and transposition of model components, adaptation with exist literature, its concrete components. The amount of internal correlation of proposed model components are respectively 0.45, 0.41, 0.41, 0.43, 0.25, 0.29, 0.21, 0.20, 0.24, 0.21.

The amount of correlation is lower than other cases, but this amount is acceptable regarding to be meaningful. Thus regarding to above tables include the components of internal correlation and indifferently 84% of educational experts confirm the proposed model.

4. Discussion and Conclusion

The main purpose of this research is to design organizational memory management in the education system. Organizational memory management model in the supreme education system based on the organizational memory and knowledge knows organizational memory management due to interaction. This model with a set of abilities in the education system wants to provide empowerment bed for organizational memory system.

Therefore, the education is purposed; in such a way that its strategies and procedures encourage its members regarding to organization memory so that the organizational memory management be done. This model differentiation is in place selection.

Chandler (1997), historian business says that technology improvement in 19th century has been a production of organizations visible hands, not market invisible hands, and the education system has an important role in scientific knowledge improvement amongst these organizations; also north, famous economic historian (1990) states that 19th century creative energy improved mostly in social institutions not in industry, science or art; name of the educations, universities, research institutions is seen among these institutions and lack of efficient institutions led to lag between industrial revolutionary commence and technical economy development in the late 19th century.

Currently it is believed that the education system helps to develop regional economy development increasingly. Therefore it is necessary that the education plays a leader role in programming and performance, so it implicates their involvement with organizational memory management.

Regarding to above discussion, organization memory management model suggestion for the education system can be a suitable means for the realizations of these ideals. Of course this model use requires some changes in the education system design because its current bureaucratic structure, its technologic knowledge, non-attention to the staff memory, and the knowledge cohered to the staff does not have organizational memory management ability and its knowledge; But is required a new flexible design that facilitates the organizational memory management. Therefore shows the proposed model framework to develop the relationships between concepts and variables. In fact, they are a diagram or a plan which relate concepts together and show them in a reliable and rational structure.

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