

An Investigation of the Effect of Organizational Culture on Knowledge Management Based on Nonaka Model

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ABSTRACT

Knowledge is considered as the important asset of organizations in the current world. Knowledge management is defined as an effective process including creation, share and use of knowledge in organization affecting the performance of organization. Since change in organizational culture is one of the most important aspects of each knowledge system, studying the characteristics of organizational culture and its role in knowledge management seems indispensable. The present research investigates the relation between these two variables based on Nonaka model at Payame Noor University. The sample size was 105 employees and faculty members of the university that were chosen based on random sampling method. Two inventories namely Denison's organizational culture inventory and Nonaka's knowledge management inventory were used to collect data. Results show that there exists a significant relation between organizational culture and knowledge management. The relation between knowledge management and organizational culture at university that was accepted based on this research can pay a successful and useful way for managers for predictions, priorities of systematic changes and formulation of strategies and implementation of managerial techniques.

KEYWORDS: Knowledge Management, Organizational Culture, Nonaka's Knowledge Model

INTRODUCTION

Today, organizations consider unobservable and spiritual capital that is called the very "knowledge", as a vital world. Achieving the treasures of organizational knowledge is impossible without learning. Afraz, (2005) and Wiro Sock (2010) believe that organizations should have an accurate view to organizational culture before knowledge measures. Organizational culture is suggested as a main factor in the area of knowledge management. The capacity to use information and technology and innovativeness in management and processes in turn, depend on learning ability within a learning organization. Knowledge management system should be able to coordinate individuals' working and learning activities and include enough motivations to be able to attract all members and involve them in inter-organizational activities.

Regarding the necessity of research in the field of knowledge management at universities, Monacko (2008) believes that in spite of the generality of knowledge management in the arena of trade and economy, knowledge management still has not achieved its position at universities. While, universities are considered the source for generating knowledge and should be pioneer in employing knowledge management in the society with having research centers.

Transferring knowledge is not only communicating with exchanging information or making it accessible for individuals who need it, but transferring knowledge includes both disseminating knowledge and attracting it. When information and capacities are transferred effectively that receiver understands it well in order to use them effectively and efficiently. Transferring personal knowledge is extremely worthy as well as private and informal education as well as information network contribute to individual and organization's learning significantly. On the other hand, the implementing knowledge management requires that organizational factors such as culture (exchange culture and continuous learning), technology, and human resource are related with each other and should have special characteristics.

According to Mahini (2001) creating knowledge management at universities and higher education institutes is necessary by creating and maintaining a framework so that all university members can use knowledge for employing them in education, learning-teaching and research as well as goals that enable them to access their necessary information every time and everywhere.

Various researches are conducted regarding knowledge management and organizational culture that the following cases can be mentioned.

Gholizadeh (2004) in one research investigated the position of knowledge management at Firdausi Mashhad University. The results of this field research conducted on the university managers show that there is a significant relation among organizational culture and internalizing and externalizing knowledge management.

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Nonaka et al. (2005) in one research examined the effect of organizational culture on knowledge management in Hyundai Company and concluded that creating and leading new knowledge would be useless if organizational culture of organization is not transferred.

In some sources of knowledge management, three models are introduced: knowledge classification models, intellectual capital models and social structures models.

Nonaka's knowledge model is considered among knowledge classification models.

This models regard knowledge as a separate element. For example, Nonaka and Takeuchi's model shows the conceptual layout of the high level of knowledge management and considers knowledge management as the process of creating knowledge.



Figure 1: Nonako's model

Based on this model, knowledge is consisted of explicit and implicit elements. Implicit knowledge is a nonverbal, inherent and unexpressed knowledge according to Polani's definition (1962). Explicit knowledge is the expressed knowledge through writings, designs, computer programs and paints. In this model, it is supposed that implicit knowledge can transfer from the vacancy of the process of socialization to another individual's implicit knowledge and be converted to explicit knowledge in the process of externalization. In addition, based on this model, explicit knowledge can be converted into implicit knowledge through the process of internalization and through combination can be converted into another explicit knowledge. Certainly, transferring knowledge is more complex than the simplified matrix suggested by Nonaka and cannot be easily interpretative in the new paradigm of knowledge management. Unpublished knowledge cannot be easily sharable. If a kind of knowledge is unprepared and unpublished then it is considered s personal knowledge (perception, view and experience). Prepared and unpublished knowledge is transferable in small groups only based on "the need to know". Prepared and published knowledge only can be accessible through magazines, books and libraries.

Hypotheses and Conceptual Model

Based on the conducted researches and the objective of the research, the present research aims to investigate the four following hypotheses:

1. There is a significant relation between knowledge management and organizational compatibility.
2. There is a significant relation between knowledge management and organizational participation.
3. There is a significant relation between knowledge management and organizational flexibility.
4. There is a significant relation between knowledge management and organizational mission.

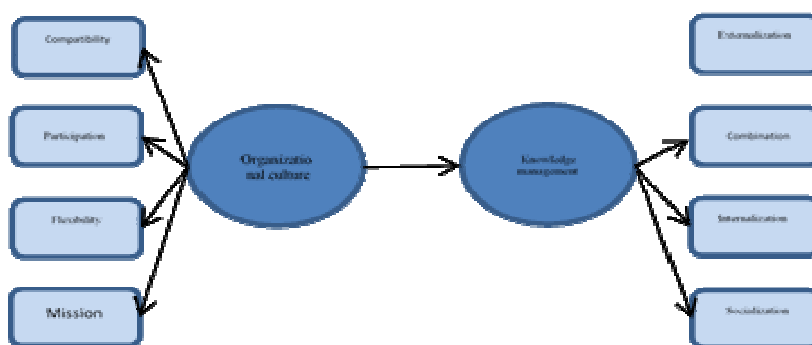


Figure 2: Research conceptual model

METHODOLOGY

The present research is among descriptive researches and conducted by survey method. The statistical population of the present research includes all faculty member and employees of Payame Noor University, Khorasan Razavi Branch. Sampling was conducted in an ordered stratified form and 105 individuals participated as the research sample via email. Data collection tool includes two inventories namely Edwin's organizational culture (2006) and Nonako's knowledge management.

Edwin's organizational culture has 4 subscales including organizational participation (7 questions), compatibility (5 questions), organizational flexibility (4 questions) and organizational mission (9 questions). Nonako's knowledge inventory was used in four sections including externalization (5 questions), combination (11 questions), internalization (4 questions) and socialization (6 questions). These inventories are based on Likert scale and their validity and reliability were tested and confirmed. Sixty eight percent of participants in this research were male professors and thirty two percent were female professors.

Statistical Analysis

Table 1 shows the mean of scores of the main components of organizational culture in the study case.

Table 1: Mean of scores of the main components of organizational culture

Main dimensions of culture	Total mean of score		Test 3.5 value= Total mean of score	
	Numeric	Percent	Standard deviation	p-value
Participation	3.72	75.8	0.827	0.001
Compatibility	3.45	68.5	0.658	0.23
Conformity	3.50	70.2	0.607	0.08
Mission	3.68	73	0.633	0.0005

According to the results of Table 1, participation, compatibility and mission culture is at a desirable level at the level of university. Participation culture has the highest score and compatibility culture has the lowest score (3.45) below average.

The analysis of the components of organizational culture and knowledge management showed that there is a significant statistical relation among all study variables in the study case.

Furthermore, a relatively high correlation was observed between components of organizational culture and knowledge management. Table 2 shows the rate of correlation and relation among the study indices.

Table 2: Relation between components of organizational culture and knowledge management

Components of organizational culture	Participation	Compatibility	Conformity	Mission
Knowledge Management	p-value=0.000 r=0.679	p-value=0.000 r=0.716	p-value=0.000 r=0.700	p-value=0.000 r=0.707

Totally, both components of organizational culture and knowledge management at university have a relatively desirable status and a significant statistical relation and a positive correlation were observed among them. Table 3 shows the total score of knowledge management and organizational culture as well as the rate of relation among them in the study case.

Table 3: General status of the study variables and relation among them

Study variables	Mean		Sig level and Correlative Rate
	Numeric	Percent	
Organizational culture	3.63	72	p-value=0.000 r=0.75
Knowledge management	3.13	62	

Stepwise regression test was used to determine and explain the components of knowledge management on organizational culture that the results are shown in the following table:

Table 4: Stepwise regression

Model		Nonstandard coefficients	Standard coefficients	Determination coefficient	Sig level
		B	Beta	R-square	Sig
External	Fixed	1.379	0	0.201	0.000
	Participation	0.610	0.502		
Combination	Fixed	1.063	0	0.238	0.000
	Participation	0.529	0.390		
	Compatibility	0.183	0.319		
Internalization	Fixed	0.451	0	0.259	0.000
	Participation	0.453	0.333		
	Compatibility	0.098	0.107		
	Flexibility	0.316	0.195		
Socialization	Fixed	0.396	0	0.289	0.000
	Participation	0.338	0.249		
	Compatibility	0.087	0.095		
	Flexibility	0.242	0.146		
	Mission	0.257	0.258		

Conclusion

Results showed that there is a relatively strong correlation between components of organizational culture and knowledge management. Organizational culture as a the character and foundation of organization plays an effective role in establishing knowledge management and the organization should pay attention to organizational culture in order to improve knowledge system effectively and disseminate it in the whole organization and as organizational culture is more stronger, the implementation of knowledge management would be conducted more successfully.

Organizational culture is one of the effective factors in implementing knowledge management and the basis of the success of knowledge management. Lopez, Downport and Libovits belie that knowledge management requires the creation of a strong organizational culture to support it. Adli and Hassanzadeh in their studies suggest organizational culture as the important infrastructure of knowledge management. On the other hand, weak organizational culture can be a barrier to implement knowledge management successfully, because Pauleen and Mason's researches show that the most important barrier in implementing knowledge management is the existing organizational culture. March and Jones in their study concluded that in most organizations, existing organizational culture is not the supportive factor of knowledge management.

The results of these researches indicate that the dominant culture at this university has been supportive and participatory culture that is in accordance with the appropriate culture of knowledge management and can be an effective factor in implementing and applying knowledge management.

The desirable status of organizational culture at Payame Noor University shows that the university as a dynamic organization has placed transformation and change as its procedure in the different managerial and organizational dimensions. In addition, considering organizational culture as one of the strategic components of internal environment is viewed as an indispensable and deserving measure. Since the university has been able to consider different dimensions of organizational culture such as organizational flexibility, participation, greater focus on the external environment, increasing groups' performance, changeability, organizational learning as well as components of knowledge management in order to elevate itself, thus, such a culture and environment can be a model for other organizations.

Investigating, changing and creating an appropriate and flexible organizational culture only can change the interaction pattern among individuals in the organization gradually and knowledge management can be benefitted as a competitive advantage. The existence of a weak and inflexible participation and creativity culture can make employees disinterested in innovation, change and creation of new ideas. On the other hand, it makes them fearful of exchanging knowledge with others, while, a dynamic, participatory and flexible culture that members of organization know it and believe in it reacts against changes well and places organization in the direction of progress and elevation.

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