

Study the Relationship between Organizational Structure and Knowledge Management from the Point of View of Social Security Experts in West Azarbaijan Province

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Abstract: Today, knowledge as well as a strategic asset is a valuable resource and provide products and services of good quality. Without management and proper use of this valuable resource, it is difficult and sometimes impossible. On the other hand, the approach to knowledge management is not possible without the proper structure and support. Organizations need to adopt structures that allow them to further knowledge creation and transfer as much as possible. Organizational structure effects on the flow of information and the environment and the nature of human interactions and lead to a competitive advantage in the knowledge economy. To achieve this type of structure, the correlation between variables of formalization, centralization, complexity and knowledge management was examined, using questionnaires that have demonstrated reliability and validity. The aim of this study is to investigate the relationship between organizational structure and knowledge management from the point of view of social security experts in West Azarbaijan Province. Results obtained from SPSS output shows the significant relationship between structure and dimensions of knowledge management in social security organization in West Azarbaijan Province.

Key words: Organizational structure, knowledge management, social security organization, SPSS, environment

INTRODUCTION

In recent years, the strength and competitive advantage of an organization or a society was more access to material resources (Ansari *et al.*, 2012). But, now the situation has changed completely with the transition from industrial revolution and the advent of the new millennium, the engine of growth in organizations is not limited to material resources and capital but the most important variable for growing organizations and businesses in present ages, is “knowledge” (Davenport and Grover, 2001). Knowledge has become one of the most important strategic resources of organizations and is necessary to gain a competitive advantage and success. today, the main competitive advantage for organizations is their ability in knowledge management (Ushanluie, 2011).

In present, knowledge is the major capital manufacturing and service in organizations, that they have access to. The organizations can be a leader and pioneer that are able to take the largest, most prestigious in their business and by possessing the knowledge, use the wisdom and experience of staffs and also use the implementation, restoration, preservation and maintenance of knowledge as an intangible asset to the organization (Ansari *et al.*, 2012). Many studies have

shown a significant relationship between knowledge management and organizational performance. Due to Zheng and his colleagues studies, learning and sharing knowledge are effective factors in innovation and product development and as a result are effective in improvement of effective performance of the organization. Also integrating knowledge can led to product development and reduce defects and improve efficiency (Zheng *et al.*, 2010). Large hierarchical organizations which were once considered a physical facility, today are considered impregnable and have been faced with difficulty in response to volatile markets and customer needs in terms of quick delivery of goods and services. Due to managers viewpoint, in order to survive in complex and dynamic environments, it is essential for organizations to have the agility and flexibility that is needed to be efficient in managing knowledge. However, more managers have been faced with difficulty in understanding the practical aspects of knowledge management. On the other hand, the management paradigm have been evolved and changed through several distinct stages. One of the pivotal factors during in this change is the organizational structure. Organizational structure is the main power switch because it is the foundation and framework for all decisions and organizational processes (Wang and Ahmed, 2003).

Literature review: In recent years, knowledge management strategies are one of the most interesting and most challenging businesses and management issues that their use is broadened in association with the management of other issues. Nonaka and Takeuchim (1995) Model design is caused a new technology in knowledge management. Although, the next detailed studies and surveys give additional richness to the issue, but also the trend continues. Knowledge can create a sustainable competitive advantage for organizations because sources of knowledge are complex and difficult to imitate from the perspective of social perception. Knowledge as a whole can provide organizations with the ability to change. Knowledge management system within an organization should be able to coordinate the work activities and individual learning together and should also include adequate incentives and motivations to be able to attract all members and engaged them in activities within the organization (Wiro, 2010). For the establishment of KM initiatives in organizations we require a certain structure in organization. It is important to point out that the organizational structure and its corresponding diagrams are largely abstract and subjective and the actual organization is not created and practical until they have come to materialize.

Dynamic environments, complex and extensive developments, especially in the field of information technology has caused inevitable changes in organizational structures. In order to respond and adapt to environmental demands, new forms of organization have been created in order to strengthen the horizontal coordination and create simple organizational processes and provide satisfaction of domestic and foreign customers. In fact, the vertical structures make efficient and professional career, more complicated and inefficient. The vertical structures that are remnants of the industrial age, are completely inappropriate. Organization's structure has great effect on KM. Having a high centralization in decision-making and high recognition in processes and working relationships are much less effective in generating new knowledge and ideas, while the distribution of power and flexibility in activities increases the knowledge and facilitate knowledge transfer in organizations. Degree of centralization, formalization, the organization's secret documents and how information flows between the entities, are important structural features that directly affect the creation and transfer of knowledge (Nonaka and Takeuchim, 1995). Organizations have a variety of structures that are needed and used according to terms. Because of their differences in size and components there are different types of organizational structures. Brenner and Stocker believe

that, the most effective structure, is the structure that compliance with the requirements of the environment. Marco and Art (2009) argue that the creation and transfer of knowledge requires a specific structure within the organization.

Therefore, the necessity and significance of the research and the impact of these intangible and strategic assets are effective factors in organizational success and reduce uncertainty and avoid trial and error methods.

Expected results have shown the importance of organizational structure in the implementation of knowledge management and review the direct and indirect impact on knowledge management. Organizational structure can share knowledge and experiences to facilitate the individual and group level, directly and through decentralization, fragmentation and lack of recognition (Chen *et al.*, 2010; Chen and Huang, 2007; Zheng *et al.*, 2010), provide infrastructures for development and implementation of knowledge management or indirectly through the development of social interactions.

Theoretical background

Organizational structure: One of the most important aspects of any organization is organizational structure. Perhaps, we can say it is the main part of the organization, after organizational goals. The scope of the definitions and the influence of the structure emphasis on its importance and particularly it shows that any organizational change is associated with structural dimensions. structure is one of the main features of the organization that upon which differentiate between tasks of different activities and coordinate between tasks. Also with structure, the process of delegating, responsibility, controlling regulations and standards between activities are determined. By entering to the knowledge era, the evolution of organizational dimensions has taken a new trend. The organizational structure does not remain constant, but it can shape the affairs of the organization, and the organization can change its shape. So, it must be acknowledged that the emergence of structure is a continuous process. The organizational structure is nothing but the result of multiple factors simultaneously. In some cases, it is possible that the structure of the organization is a reflection of the attitudes or styles that had been desire of a special person in a particular time. Two major factors affect the structure. These factors or in other words the dimensions of the organization, stating the specific characteristics of the organization. These dimensions describe the organization as the personality and physical characteristics, that are representative of people.

In implementing a successful knowledge management, there has been taken a great emphasis on the importance of organizational structure. According to Stroff's idea, horizontal organizations are more suitable for information age because the horizontal organizations have more flexibility in relation to the rapidly changing and competitive business environment (Ruikar *et al.*, 2006). In recent decades, a huge number of organizational structures have come into existence. Initial studies that have been done on understanding the organizational structure, insisted on the dimensions that are more representative of formal structures. However, the requirements of the knowledge era, has caused the emergence and development of knowledge-based organizations that some of their characteristics have essential differences with those of traditional hierarchical structures. Perhaps, the most important differences is the important and determining role of the informal structure in this organizations that has been largely ignored. In traditional organizations. While, consideration for the success of these organizations is essential in the effective management of knowledge.

Knowledge management: In knowledge-based economies, the main source of competitiveness and success of any organization, more than depending on the value of its physical resources and its tangible and concrete assets, it depends upon, the intellectual capital of the organization. A successful knowledge management can create a situation to raise the competitive advantage of the organization's capacity, customer focus, improve employee relations, innovation and cost less (Zheng *et al.*, 2010). Knowledge management is a continuous process and a cycle of development that has led to the addition of more and more knowledge management during the time and this cycle consists of six processes of creating, acquiring, organizing, storage, dissemination and application of knowledge (Lawson, 2003).

The first element of knowledge management is creating knowledge. This kind of knowledge is formed constantly in groups, organizations or corporations and raises the organization's ability to attract and generate knowledge that is a key for competitive advantage and develop new products and services (Filemon and Uriarte, 2008). Whigs believed that knowledge can be created through research and projects, innovations to improve the way people work, experimentation, logical discussion about the knowledge and recruitment. Also, knowledge may eventually be created through the importation of knowledge and the observation of the real world (Ghelich, 2009).

The second element is knowledge acquisition that is used in order to meet the current and future needs of the organization and identify and acquire a new knowledge that provide a logical approach to be easily accessible and shared (Lawson, 2003).

Organizing the knowledge is the third element that refers to the degree to which new knowledge is refined and organized. This knowledge is useful to identify and list the dimensions for the various products and services. The process of organizing, can be reviewed in order to stay knowledge.

Saving the knowledge is the fourth element which indicates that even though organizations create knowledge and learn it, they also forget it, so the storing, organizing and retrieving the knowledge are important aspects of effective knowledge management (Ghelich, 2009).

The fifth element is the dissemination of knowledge. Knowledge is a product that is transmitted by the interaction of individuals and their relationships. In other words, the distribution of knowledge can mean a process-oriented focus to spread knowledge among certain groups of employees to be considered and can be an expression of knowledge transfer between individuals within work groups.

The process of applying knowledge is the last element of the so-called knowledge management process in which knowledge is activated and is ready for value creation in organizations. Applying knowledge can also solve the problems and improve the performance of the organization (Lin, 2007). In addition, the use of knowledge in decision-making and problem-solving, allows organizations to respond environmental changes more efficiently (Liao *et al.*, 2011).

Research hypotheses: Based on the consensus of management experts, the structural characteristics of organizations have considerable influence on employee attitudes and behaviors. According to Mayer, the organizational structure is more the simplification of complex patterns of human behavior. For this reason, designing an appropriate structure is crucial for determining organizational performance. Appropriate organizational structure itself will not be succeed but poor structure make successful performance impossible. The organizational structure should accelerate and facilitate decision-making and be responsive to the environment and have conflict resolution between the units. Schein argues that the structure, is the visible part of the culture and perform important tasks. So, the structure of the organization is the key element of the corporate culture. Nonaka claimed that the internal structure of an

organization can promote or hinder the success of knowledge management and it means that in order to facilitate knowledge management, organizations must be properly structured.

Thus, the main hypothesis of this study is formed that there is a significant relationship between the organizational structure and knowledge management. Since, the organizational structure consists of three dimensions: formalization, complexity and centralization, that they will be discussed.

Formalization is as one of the most important aspects of the organizational structure. As far as some of the people know the organizational structure as the organization framework, rule of interaction, management tool and Work Procedure. Formalization measure the extent to which the organization uses the rules and procedures for prescribing behaviors (Liao *et al.*, 2011). In organizations with a high formalization, there are rules and procedures that prevent the spontaneity and flexibility that is needed to internal innovation. Standardization may destroy alternative behaviors and different standards while knowledge creation, requires diversity. When unforeseen issues are rising, organizations should create diversity in the structures and processes. Formalization reduce innovation and recognition of the diversity of ideas and new behaviors and encourages interpersonal cohesion and resilience. Knowledge creation requires flexibility. Flexibility is the result of reducing the formality in the organization. As a result, decreasing the formality cause the success of knowledge management in the organization.

So, it can be justified that as the first sub-hypothesis, there is a significant correlation between formalization and deployment of management in the organization. Centralization refers to the level at which decisions are made. If the decisions are delegated to lower levels, the organization will be decentralized and if decision-making maintained at a high level, organization will be focused (Ferrel and Skinner, 1988). Centralization also creates a non-cooperative environment that reduces communication, commitment and participation in affairs. Chen and Huang (2007) in their review found that the more informal and decentralize the structure is it will have good effects on performance. Centralization makes environment non-participate and reduces communication, engagement in tasks and projects. However, under the pressure of dynamic and competitive knowledge workers, that have expanded skills, experience and greater job responsibilities, they need to have more independence and freedom. If those have the independence and freedom of action in measures needed, they will accept the decisions. Because they have the

chance of providing inputs and introducing more ideas during the process of decision-making level. Having more autonomy by members of the organization, equals with responsibility for the role and working conditions.

So the second sub-hypothesis can be stated as follows: there is a significant relationship between concentration and deployment of knowledge management.

Complexity is the degree of specialization based on job specialty within the organization (Fry and Slocum, 1984) and may be defined and measured by the number of places where work is done, the number of jobs that can be done and the number of hierarchical doing various tasks. Complexity, increases the problems of control and coordination and in order to increase innovation, the organization should maintain its position against competitors. Complexity is the result of environmental uncertainty. Structural complexity can be a reaction to the perceived complexity of the environment or the result of breaking down of the technical core. Of course the size of the organization is a major factor in the complexity of the organization. According to Brooks, KM, for stable and reliable systems, is focused on integrated organizations which can be at the center of its core values and manage its vertical, horizontal, exterior and geographical lines and bring them together with trust.

The third sub-hypothesis is formed as follows: there is a significant relationship between complexity and implementation of knowledge management.

When the structure has less formality and more integrity, social interactions among its members are desirable (Chen and Huang, 2007). In this way, by reducing regulations and formal procedures in performing tasks and organizational activities, the spirit of knowledge between organization's staffs are encouraged and by holding regular meetings to exchange information between managers and employees and by increasing employee access to information and documents required, we can reduce the amount of centralization in organizations. Hence, in reducing the complexity of the vertical and horizontal measures, doing such activities are essential: the use of information and communication technology, performance appraisal and reward system based on team performances, creation of organizational units and posts in managing knowledge and innovation activities in organizations. The fourth sub-hypothesis is formed, so that there is a significant relationship between dimensions of organizational structure in the organization.

MATERIALS AND METHODS

Since, the aim of this research is to determine the relationship between organizational structure and

knowledge management from the point of view of social security experts in West Azarbaijan, the research is practical in terms of its target and descriptive in terms of method of collecting information.

Main tool to collect information was a questionnaire including 41 questions about dimensions of organizational structure and knowledge management. Thereby, 15 questions were considered for 3 dimensions of organizational structure such as: formality, centralization, complexity and 26 questions for dimensions of knowledge management such as: knowledge creation, schooling, organizing knowledge, storage and maintenance of knowledge, distribution and transmission of knowledge and application of knowledge respectively, by 5 level Likert scale. In order to check the ingredients to ensure the representativeness of the questionnaire and the necessary features that researchers have attempted to measure them, we have used Robbin's questionnaire to check the organizational structure and in order to check the validity of the KM questionnaire, Fong and Choi (2009)'s standard questionnaire have been used. Statistical sample of the research was 121 experts of Social Security Organization in West Azarbaijan. In order to evaluate the reliability, an initial sample of questions was pre-tested. Then, using the results obtained from this questionnaire, coefficient of confidence was calculated 0.815 for the questions of organizational structure and 0.843 for the questions of knowledge management from technique of Cron Bach's Alfa. These figures indicate that the questionnaire has the required confidence or better to say reliability.

RESULTS AND DISCUSSION

In order to determine the type of the test used to evaluate research hypotheses, initially we should examine the normality or non-normality of data by Smirnov Kolmogorov test and then according to these results, parametric or non-parametric statistical methods were used for testing hypotheses.

Due to the results in Table 1, we concluded that in 95% level the null hypothesis or normality of data being rejected and therefore, there is no reason for variables to be parametric. In non-normal distributions, the Spearman Correlation test is used to test the hypotheses. The results of total indicators of organizational structure and total scores of knowledge management variables through SPSS output shows that there is a significant relationship, between organizational structure and knowledge management scores.

The Z score in Man-Whitney test, for surveying the relationship between organizational structure and KM

Table 1: Kolmogrov-Smimov test

Parameters	Kolmogorov-Smimova		
	Statistic	df	Sig.
Complexity	0.403	121	0.000
Formality	0.390	121	0.000
Centralization	0.388	121	0.000
Knowledge creation	0.363	121	0.000
Schooling	0.347	121	0.000
Organization of Knowledge	0.372	121	0.000
Maintain knowledge	0.379	121	0.000
Distribution and transfer of knowledge	0.378	121	0.000
Application of Knowledge	0.402	121	0.000

indicates the amount of -4/082 that its significant level 0/001 is <0/05, so we can conclude that there is a significant and inverse relationship between organizational structure and knowledge management in 95% level and the main research hypothesis is confirmed.

As the first sub-hypothesis of research had been about the relationship between formality and deployment of knowledge management, the results of these calculations by the use of SPSS output shows that there is a significant relationship between the scores of formality and implementation of knowledge management. The Z score in Man-Whitney test, for surveying the relationship between formality and KM indicates the amount of -4/839 that its Significant level 0/001<0/05, so, we can conclude that there is a significant and inverse relationship between formality structure and knowledge management in 95% level and this research hypothesis is confirmed.

The second sub-hypothesis of research had been about the relationship between centralization and deployment of knowledge management, the results of these calculations by the use of SPSS output shows that there is a significant relationship between the scores of centralization and implementation of knowledge management. The Z score in Man-Whitney test, for surveying the relationship between centralization and KM indicates the amount of -2/652 that its Significant level 0/008<0/05, so we can conclude that there is a significant and inverse relationship between centralization and knowledge management in 95% level and this research hypothesis is confirmed.

The third sub-hypothesis of research had been about the relationship between complexity and deployment of knowledge management, the results of these calculations by the use of SPSS output shows that there is a significant relationship between the scores of complexity and implementation of knowledge management. The Z score in Man-Whitney test, for surveying the relationship between complexity and KM indicates the amount of -10/421 that its significant level 0/001<0/05, so, we can

Table 2: Linear model Analysis of Variance (ANOVA^a)

Model (1)	Sum of squares	df	Mean square	F	Sig.
Regression	0.239	3	0.080	0.722	0.541 ^b
Residual	12.902	117	0.110		
Total	13.140	120			

a: Dependent variable: Knowledge management total; b: Predictors: (constant), centralization, formality, complexity

Table 3: Coefficients ^a of Linear model

Model (1)	Unstandardized		Standardized		Sig.
	B	SE	β	t	
Constant	4.251	0.389		10.937	0.000
Complexity	-0.001	0.060	-0.001	-0.013	0.990
Formality	-0.002	0.060	-0.003	-0.030	0.976
Centralization	-0.091	0.062	-0.135	-1.470	0.144

a: Dependent variable: Knowledge management total

so, we can conclude that there is a significant and inverse relationship between complexity and knowledge management in 95% level and this research hypothesis is confirmed.

The last sub-hypothesis of research had been about the relationship between dimensions of organizational structure that the results of these calculations by the use of SPSS output shows that there is a significant relationship between the scores of dimensions of organizational structure. The Chi square amount in this test is 126/628 with 2 degree of freedom that its Significant level $0/001 < 0/05$, so we can conclude that there is a significant relationship between dimensions of organizational structure in 95% level and the last research hypothesis is confirmed.

In ANOVA Model, according to above Table 2 and a small significance level of 0/05 at 95% level, we found that the linear regression model is significant and the model coefficients are presented in Table 3.

Due to the small significance level of all coefficients of 0/05 at 95% level, all coefficients are significant and the formality have the greatest impact and the centralization have the least impact on the form of the regression. The regression model is as follows:

$$\text{Know} = 4.251 + 1.89C + 2.38F + 1.12CE + \epsilon$$

CONCLUSION

As mentioned above, there is a significant relationship between organizational structure and knowledge management, in order to have a successful deployment of knowledge management, having an appropriate organizational structure is inevitable. According to the negative correlation between formality and knowledge management, we should reduce the amount of formality in the organizations and create work teams and groups, rather than assignmenting the whole

job to an individual. Reducing the freedom action of employees can waste much of their knowledge energy. But, reducing the formality scale in the organization needs of people with knowledge and higher education to put their judgment in choosing the right way to operate. In relation to the centralization in the organization, due to its negative relationship with knowledge management, we should pay attention to participate employees in their work and giving them authority to take important decisions. About complexity in the organization, we can say that as the Spearman Correlation test showed a significant relationship between complexity and knowledge management, linear relationship also implies the influence of complexity variable on knowledge management, so by reducing the hierarchy in the organization, removing the horizontal boundaries, reducing job titles and by the use of teams in organizations, we can reduce the amount of complexity in the organizations.

RECOMMENDATIONS

Furthermore, in order to have an appropriate structure, the following items are recommended:

- Providing greater engagement by creating chat rooms and reducing virtual offices
- Enhancing transparency by keeping confidential documents and information from organizations to enhance their ability to share
- Establishing channels of communication with customers to achieve real source of knowledge and experience and transfer them to the organization
- Developing informal relationships to increase satisfaction and motivation to transfer and for other knowledge management processes
- Establishing and strengthening friendly relationships in the organization for synergistic roles of organizational positive emotions and creative engagements and generation of organizational wisdom
- Developing technical infrastructures, including network connectivity, document management, search engines and retrieving information in a manner that does not preclude face to face communication and interaction among employees

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