

Institutionalization of organizational knowledge management program in the Shiraz Municipality

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Abstract

This article investigated the institutionalization of knowledge management program in a unique global engineering organization, the Flora Company. Although many initiatives have failed in the field of knowledge management, the Flora Co. has established a dynamic program that has proven its increasing legitimacy but has been considered an unimportant operation through the time. This article examines the process of institutionalization in two ways: qualitatively by the analysis of variable application of the program through examples, and numerically with the possibility of delineating participation in the program over time. In addition, factors were identified through literature review that help ongoing application and replacement of the program in the management of Flora Co. These factors include: program alignment with the Flora Company's culture, continuous maintenance and easy application of the program, social impact, and exterior changes, all of which develop the knowledge management program turning it into a program used well all over the world, is of high attention, and serves more successful. This case study is a rare opportunity to scrutinize the knowledge management program, which has been implemented for almost a decade in the AEC. It also offers insights and recommendations to companies that are seeking to implement knowledge management programs in the industry today.

Key Words: Institutionalizing organizational knowledge, delegation of authority, Employee involvement, centralized management, information technology.

Introduction

It is obvious that in the process of activities at all organizations, organizational knowledge is inevitably produced, which should be managed and provided to all employees to be reused. However, the fundamental difference between knowledge-based or knowledge-oriented organizations and other organizations is that in the former, knowledge production is considered as a primary mission and, thus, knowledge management methods and mechanisms designed and implemented in these organizations to operationalize knowledge management strategies will be different from other organizations that apply specific patterns of management according to their missions. Development, implementation, and application of

knowledge require specific strategies aligned with those in a company (Abu Zeid, 2003: 156).

Organizational knowledge management is one of the most important success factors for companies in competitive conditions and the information age. The issue is so important that nowadays, a number of organizations evaluate their knowledge and represent it in their reports as the intellectual capital of the organization as well as an index to rank companies (Mousavi 2005: 12-23). These institutions know it necessary to implement knowledge management in the organization as part of its strategy (Hassanzadeh, 2006: 58-82).

Knowledge is an indefinite mixture of business, values, available information, and expertise systematic attitudes that provides a framework for evaluation and employment of new experiences and information. Knowledge is formed in an intellectual mind and comes into action. In organizations, knowledge is manifested not only in the qualifications and knowledge assets but also in working procedures, organizational processes, practices and norms. The performance and activities of organizations leads to the production of information to a great extent. Organizations capture information and convert it into knowledge through interaction with their environment. Then, they intermix this knowledge with the experiences, values, and their internal rules, thereby they obtain a basis for their actions. An organization cannot organize itself without knowledge and will not survive as a living and dynamic system. Certainly, organizations have sought to gain and use knowledge. Managers who deal with hard decisions are mostly looking for experienced people instead of searching for information in databases, so that they regularly expose their knowledge to decision-making. According to literature, two-third of managers acquire their knowledge by referring to written information and documentations (Davenport, 2000).

The interaction between technology, human, and skills deepens the concept of knowledge management as the pattern of interaction between technology, skills, and human is unique for each organization so that it is not easily traded and/or imitated by other organizations. In general, organizations have foreground and background knowledge. Acquiring, editing, organizing, and duplicating the foreground knowledge is easy, while the implicit and established status of background knowledge have made it difficult to be copied and

imitated. This depends on the organizational history and its quality. Though, we believe that background knowledge does not enable an institution to achieve better performance and implementation. In fact, the relationship and coordination between the foreground and background knowledge shape the functionality and efficiency of an organization resulting in their advantages (Perahald and Hamel, 1990; Leonard-Barton, 1992). Knowledge management tries to answer the following questions:

1. How can the institutional knowledge be created and strengthened among members of an organization?
2. How can the knowledge generated in an organization be distributed, shared, and managed with the most effective method?
3. How can members of an organization effectively use the institutional knowledge in the decision-making process?
4. How can this knowledge be preserved, protected, and restored in the memory of the organization?

Research literature

Institutionalization

Generally, institutionalization begins with the use of practices reflecting an engagement strategy. This usually happens when the occurrence of a problem shows that conventional methods cannot be implemented. Thus, the executives try to make the situation reasonable with measuring a policy to solve a common problem. Once most of people have started to use these methods and the adoption of these practices has been increased, there will be more pressure on other people to use this method rendering increased participation. Over time, this method has become a less unique selection and is mostly a necessity for the survival of organization through the process of institutionalization, increasing legitimacy, and consensus that ensures certain activities are within the scope of a program with desirable social structures, hence, the gradual adoption of patterns, activities, and common tools become ordinary and routine. Organizational theory is a large magnifier that analyzes a phenomenon in several stages. These analyses are often associated with global systems, fields or organizational steps; however, for the purposes of this article, the institutionalization process will be analyzed as a special tool, the related activities, and knowledge management in a united global engineering company.

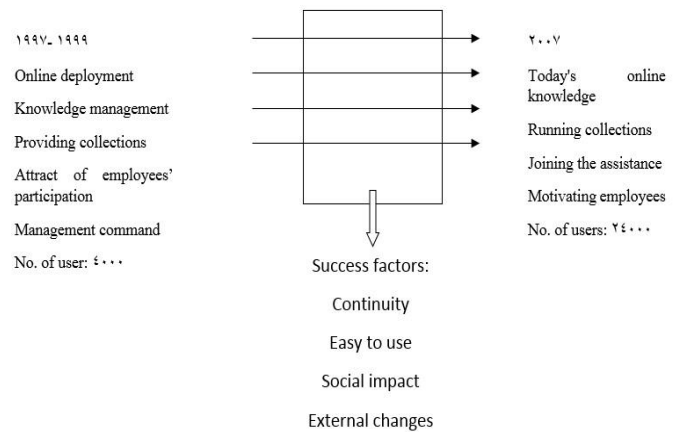


Figure 1. Institutionalization and success factors for knowledge management system in Flora Co.

Knowledge management

Perez (1999) believes that knowledge management is to gather knowledge, intellectual capabilities, and experiences of individuals in an organization and to create capabilities for their recovery as an organizational capital (Hassanzadeh, 2009).

From the perspective of Nigel King (1999), knowledge management is the process of organizing, promoting, and ensuring the understanding of information needed to perform a task. Newman (1991) believed that knowledge management is a series of processes encompassing the creation, dissemination, and application of both subjective and objective knowledge in an organization.

Knowledge management forms the interaction patterns between technologies, techniques, and people. For example, information technology on the collection, storage, and dissemination of data works well but is unable to interpret them. In a study, it was concluded that organizations that use knowledge management in long time are cautious in their social and technical relationships. It is possible to achieve technical solutions, but for knowledge management, organizations need to create a collaborative environment, cooperation, and knowledge sharing. According to Ernst and Young, 50% of experts believe that changes in human behavior is an administrative issue of knowledge management. Accordingly, changing the traditional trends and reinforcement of structures and technologies are emphasized in knowledge management projects. Thus, the gradual homogenization of knowledge management principles in an organization is a high priority. In general, the completion of knowledge management programs need to be interpreted in organizational philosophy.

To understand the knowledge management, it is vital to understand the following issues:

- Information chain and the distinction between data, information, knowledge, and cognition
- The roles of four basic knowledge management: knowledge, management, technology, and organizational culture
- The difference between data management, information management, and knowledge management; and
- Knowledge management process (Davenport, 2000: 163).

The aims of knowledge management

These include creation of a learning and partnership organization with a flow between information repositories created by people in different parts of the company (finance, operation, competitive intelligence, etc.) and linking them to each other. Most individuals and organizations employ knowledge management because of the following reasons:

Increasing cooperation.

Improving efficiency.

Encouraging and enabling innovation, overcoming excess information and delivering only what is required.

Facilitating the flow of appropriate knowledge from providers to receivers without time and space limitations.

Facilitating knowledge sharing among employees.

Capturing and recording employees' knowledge before they abandon the company, ensuring that a valuable knowledge is not lost when leaving an employee.

Increasing organizational awareness of knowledge gaps in the organization.

Helping companies to stay competitive by increasing their awareness of strategies, products, and best practices of their competitors.

Improving customer service (Kim, 2001: 79).

Barriers to the creation and use of knowledge

Barriers to the creation and use of knowledge is expressed as follows:

- Lack of enough attention to take care of institutional relationships that promote knowledge creation.
- Poor verbal skills may prevent the actual knowledge creation processes in the groups.
- There may be inadequate communication between knowledge management and corporate strategy.
- Lack of understanding of holism in knowledge management efforts.
- Inaccurate assessment of the aids created by knowledge.
- Long-standing traditions and stories of failed efforts can prevent trying to verify an idea or a new recommendation.
- Formal procedures and organizational styles that are not flexible.

- Ideas and beliefs that are not compatible with the core values and philosophy of the organization and are difficult to be balanced and corrected (Mohammadi, 2006: 46).

The role of management in knowledge management

The implicit (tacit) knowledge can be managed in two ways: It can be converted into explicit knowledge through writing communications, interviews, and oral histories. Another way of transferring the implicit knowledge is by creating knowledge communities or co-working groups in organizations, which transmit their tacit knowledge by face to face interactions, dialogues and verbal communications, continuous education, interactive problem solving, communication network, leadership, coaching, training, and professional development opportunities. In the traditional reference, tacit knowledge is usually transmitted through knowledge communities or co-working groups (Afshar Zanjani and Nozari, 2004: 64).

The role of IT in knowledge management

Information systems have had three general targets to help knowledge management:

1) Creation of knowledge repositories (storage of data) for:

- External information, especially business sagacity;
- Internal information such as internal research reports;
- Unofficial internal knowledge such as data base of discussions.

2) Transfer of improved knowledge, its accessibility and reusability through the development of user-friendly analytical tools.

3) Improving the organizational knowledge environment, including satisfaction of employees in the free sharing of knowledge and experiences.

The existing infrastructure of information technology supports knowledge management architecture. In fact, information technology infrastructures make it possible to collect, define, store, index, and link data, and digital data and objects to be processed so as to ensure sufficient flexibility and use this information in order to improve activities and support management decisions in a suitable manner. These capabilities allow us to utter that the distribution of electronic explicit knowledge is implemented in the organizational structure and its capabilities. Effective use of information technology to transfer or obtain the knowledge acquired requires a means of interpretation. As intelligent agents have more similar knowledge and professional experience, more useful knowledge can be transmitted through electronic media channels in the same way. Once the interpretation tool is not shared and the basic knowledge is implicit,

communications and professional experience supported in a best way by such interactive methods as video conferences and face to face negotiations (Carneiro, 2001: 360).

Hypotheses

1. There is a relationship between delegation of authority to staff and institutionalization of knowledge.
2. There is a relationship between employees' participation and institutionalization of knowledge.
3. There is a relationship between centralized management and institutionalization of knowledge.
4. There is a relationship between establishment of work teams and institutionalization of knowledge.
5. There is a relationship between information technology and institutionalization of knowledge.

Research Methodology

Using both descriptive and survey methods, this study tried to find a relationship between a variable with other variables. Data were collected as library and field explorations. By visiting the libraries and information centers in the library method, the Persian and Latin books and articles were reviewed to complete the research literature. In the field method, after designing a questionnaire according to the study hypotheses, it was distributed among a team of managers and employees in the municipality. The questionnaires were then gathered and properly analyzed according to the inferential statistical techniques.

The study population included all Iranian workers with education levels higher than a high school diploma (due to their recognition and awareness of the subject) including 1680 individuals at different occupational groups of director, deputy director, and experts in the Shiraz Municipality. Of these, 249 subjects were selected through simple random sampling.

This study employed two questionnaires of institutionalizing knowledge management with a reliability of 8.11 and knowledge management questionnaire with a reliability of 8.06. One sample t-test, Pearson's correlation coefficient, linear regression, and Friedman test were used to analyze the data.

Data analysis

The first hypothesis

H0: There is no significant relationship between delegation of authority to staff and institutionalization of knowledge.

H1: There is a significant relationship between delegation of authority to staff and institutionalization of knowledge.

	n	r	Sig.
Delegation of authority	226	0.451	0.000

The results of the above correlation between delegation of authority and institutionalization of organizational knowledge indicate that there is a significant positive correlation between these two variables at an error level of 0.5 and the coefficient obtained is equal to 0.451. The H1 hypothesis is, therefore, confirmed indicating that there is a significant relationship between delegation of authority and institutionalization of knowledge.

The second hypothesis

H0: There is no significant correlation between employee involvement and institutionalization of organizational knowledge.

H1: There is a significant correlation between employee involvement and institutionalization of organizational knowledge.

Table 2. Correlation test results

Correlation coefficient	Institutionalization of knowledge		
	n	r	Sig.
Employee involvement	226	0.614	0.000

The results of the above correlation between employee involvement and institutionalization of organizational knowledge indicate that there is a significant positive correlation between these two variables at an error level of 0.5 and the coefficient obtained is equal to 0.614. The H1 hypothesis is, therefore, confirmed meaning that there is a significant relationship between employee involvement and institutionalization of knowledge.

The third hypothesis

H0: There is no significant relationship between centralized management and institutionalization of organizational knowledge.

H1: There is a significant relationship between centralized management and institutionalization of organizational knowledge.

Table 3: Correlation test results

Correlation coefficient	Institutionalization of organizational knowledge		
	n	r	Sig.
Centralized management	226	0.376	0.000

The results of the above correlation between centralized management and institutionalization of organizational knowledge indicate that there is a significant positive correlation between these two variables at an error level of 0.5 and the coefficient obtained is equal to 0.376. The H1 hypothesis is, therefore, confirmed implying that there is a

Table 1. Correlation test results

Correlation coefficient	Institutionalization of knowledge
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significant relationship between employee involvement and institutionalization of knowledge.

The fourth hypothesis

H0: There is no significant relationship the creation of work teams and institutionalization of organizational knowledge.

H1: There is a significant relationship the creation of work teams and institutionalization of organizational knowledge.

Table 4: Correlation test results

Correlation coefficient	Institutionalization of organizational knowledge		
	n	r	Sig.
Creation of work teams	226	0.345	0.000

The results of the above correlation between creation of work teams and institutionalization of organizational knowledge indicate that there is a significant positive correlation between these two variables at an error level of 0.5 and the coefficient obtained is equal to 0.614. The H1 hypothesis is, therefore, confirmed meaning that there is a significant relationship between creation of work teams and institutionalization of knowledge.

The fifth hypothesis

H0: There is no significant relationship between creation of information technology and institutionalization of organizational knowledge.

H1: There is a significant relationship between creation of information technology and institutionalization of organizational knowledge.

Table 5: Correlation test results

Correlation coefficient	Institutionalization of organizational knowledge		
	n	r	Sig.
Information Technology	226	0.345	0.000

The results of the above correlation between creation of information technology and institutionalization of organizational knowledge indicate that there is a significant positive correlation between these two variables at an error level of 0.5 and the coefficient obtained is equal to 0.614. The H1 hypothesis is, therefore, confirmed indicating that there is a significant relationship between creation of information technology and institutionalization of knowledge.

Conclusion

Evaluation of previous studies indicates that the starting point of knowledge management process is to understand organizational learning as a complex, unplanned, conscious and targeted, interactive and dynamic process affected by the foundation of knowledge or cultural resources used by individuals in an organization. Based on the research findings, empowering is positively correlated with knowledge, hence, an organization can identify capable employees who are able to afford the delegated tasks and provide the background for learning other staff, and also build work teams consisting of experienced and skilled people to facilitate knowledge transfer, as Zaraga et al. (2006) accounted that work team to be a key factor for the establishment of knowledge management. Building a platform of software and hardware facilities for faster transfer of information between employees at all levels of an organization will bring about the staff become aware of new knowledge generated in their work field, can easily continue their activities, and be motivated to work. This is consistent with the results of Saeedi et al. (2009) and Nisi et al. (2009) who explain fundamental factors such as learning processes and loops, organizational resources, and innovative use of information technology to implement knowledge management. A management supporting staff to gain necessary knowledge and skills can also act as a contributing factor in the institutionalization of knowledge, which agrees with the results of Hassanzadeh (2008) who shows that top managers are effective factors on the establishment of knowledge management. In a research by Saykojis (2000), managers have been studied in three organizational levels in terms of affecting knowledge management; the research findings show that middle managers are more important in this regard. Involving employees to solve problems in an organization can act as a motivating factor leading to the exchange of information between employees and their understanding of learning requirements so that they will seek the knowledge needed; this is not in line with the results of Daneshfard et al. (2010), however, it corroborates the results of Nisi et al. (2009) and Will (2008).

Propositions

1. Designing a documentation management system will provide the possibility to administrators to benefit from a mechanized system to store and retrieve documents, records, and documentations. New systems for documentation management take advantage of software for large volumes of scanned documents very quickly.
2. Formation of multidisciplinary teams to carry out projects, which will make it possible to bring together people with different expertise so that it allows a non-formal learning and the emergence of

new idea due to the diversity of expertise, skills, and experiences.

3. Designing a customer information database enables maintenance of customers' information to facilitate the planning of services based on the requirements; such a bank contains all information about clients, the type of services provided, the number of services received, and so on. The plan is used to provide services to clients.

4. Linking counseling and research centers to receive research services on the subject of business enables managers to take advantage of specialized data of expert personnel in various fields of organization. Consulting and research firms can provide managers with their own successful experiences of other organizations.

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