

A study of the effects of implementing knowledge-management on boosting the organization capacity and management of construction projects in Iran

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Abstract

Organization knowledge and the information technology (IT) in a successful organization enjoying a proficient human resource create a reliable foundation for the management of human resources and it can be possible only through “ knowledge- management“. Development organizations such as Iran Construction Engineering Organization, the Science and Research Organization for the Development University Students, municipalities and other organizations involved in construction, private or governmental, need to implement knowledge-management and preserve the existing data so as to be able to enhance and continue rendering their services. Bearing in mind the human resources potentials and their achievements, particularly in development organizations and among engineers and technicians, knowledge-oriented organizations are able to pass through problems including a change in staff, dissemination of information and personal experiences, shortage of hardware and software and so on and even emergencies like earthquakes. Over two decades, the amount of information on organization knowledge and the manner in which it is managed and developed has extremely increased so that today one cannot talk about organization development without thinking of developing the general culture of education and getting it established among people of all walks of life. In other words, nowadays it is believed that without learning the organization knowledge and how it is managed, consistent success and development of the organization would be impossible.

Keywords: organization knowledge, development organizations, process, knowledge management, human resources

Introduction

Over the last decade , it is proved that “ knowledge management “ can be of an effect on promoting organization knowledge , human resources , the way an organization develops, the success of plans for structural development and the quality of the services. In Iran, organizations involved in carrying out knowledge management such as the National Center for Strengthening Buildings in Iran, Security Forces, Tehran Municipality’s Recreational Organization, the Khatam-al-Anbiya Headquarter Development Divisions and many others have extraordinarily succeeded in benefiting from the organization knowledge plans and organizing the learners plans. In this article, attempts have been made to investigate the issues of knowledge management and, consequently, the possibility of implementing and assessing its effects on different organizations (Saeedi *et al.*, 2008).

Management of Organization Knowledge

Numerous studies indicate that creating a learner organization and the effective practice of organization knowledge- management can lead to a change in the main attitudes and beliefs of individual members of an organization regarding the organization knowledge and learning and its effects on how it functions.

Organization knowledge-management is actually a new approach towards an organization’s sources of power, the belief that human beings are of importance and value and to their potential capabilities and creativity. Thus , creating and learning the organization knowledge, maintaining it,

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spreading it, applying it, and eventually developing it has turned into a major problem and therefore into the main responsibility of the managers.

This article presents the principles of knowledge-management and its key concepts including definitions and concepts peculiar of human beings, types of knowledge, levels of knowledge, and so that development engineers and students can implement them in their structures and projects underway.

Practical Steps towards Knowledge- Management

Regarding the importance of knowledge- management in developing an organization, its human resources and their effectiveness, and in optimizing the knowledge possessed by these organizations, definitions and concepts related to knowledge-management are presented first, and then practical steps towards management of organization knowledge are put forward. Some of the issues that should be considered more are identifying and discovering learning and documenting, altering and organizing, sharing and disseminating and finally optimizing organization knowledge as well as the topics concerning the specialized processes of its creation.

Technological and Managerial Aspects of the Knowledge-Management Process

The era in which we live is called "the age of knowledge and information"; and unlike the age of farming (agriculture) and industrialization in which the land and industrial equipment were considered as the main assets, the most important asset of the organization is "knowledge". The current economy is so dependent on knowledge that it is called "knowledge – oriented economy". Knowledge-management enables us to preserve and use the knowledge asset by sharing it with the individuals in the organization. By preparing the required technological infrastructure and creating the culture of collecting, preserving, and sharing the knowledge of how to exploit it in the course of everyday works of the organization, the people in the organization will experience an implicit consecutive process of learning that will result in the promotion of their abilities, a rise in the productivity of the organization, creation of a better ground for the growth of creativity, innovation and flexibility of the organization; in so doing, the organization will be able to adapt itself to the external dynamic environment so as to save its ability to compete in the market.

Effective implementation of the knowledge-

management system requires a proper combination of technological and managerial skills. In this article, different processes of knowledge- management and the related technological and managerial issues will be dealt with.

Identification of different types of knowledge-management processes and the relevant technological and managerial issues will help the organization managers to, before implementing the knowledge-management and according to the conditions of the organization, adopt an appropriate plan and attitude towards what should happen in each step of the knowledge- management process.

Changing the Ideas into Practical and Useful Knowledge

Knowledge-management is a process by means of which the unstated and unorganized ideas and skills of the individuals in an organization are turned into organized information and consequently into useful knowledge; so that this knowledge can be spread throughout the organization and given to the people who can use it in one way or another.

To create and maintain the power to compete, organizations need to use mechanisms to collect and share the technical knowledge, the knowledge of the business processes and their managerial knowledge. Creating knowledge and spreading it among people in an organization is useful because it leads to organizational learning.

Creating and disseminating knowledge can result into organizational learning provided that it partially affects the nature of the people's behavior and this learning will be valuable as long as it improves the efficiency of the organization. Hence, implementation of knowledge- management in an organization can turn it into something in which learning is a continual implicit process. That is what is called "the organization of the learner" (Talebi, 2007).

Implementation in Development Organizations

Considering the amount of information and technology available in development organizations, we find that knowledge- management can be easily implemented in these organizations and, in the short term, many of the problems that exist in the construction projects around the country and that are brought about by not using the modern knowledge in spite of being available at high amounts, can be solved.

Knowledge- Management in the Field of Construction & Supervision Culture: Requirements & Prerequisites

Bearing in mind the importance of creating the culture of commitment in supervision and survey , as the most important basis of creating a change in the quality of construction in our country , many authorities have embarked on the study of strategic aspects and features of knowledge in this field . Answering question like: What kind of knowledge is available in the field of the culture of engineers commitments? What are its properties? How are they assessed and evaluated? How is the implicit and valuable knowledge existing in this field changed into an explicit and presentable knowledge? What mechanisms make the exchange of knowledge possible?

In the field of creating culture and commitment and requiring individuals to transfer their developmental experiences, knowledge-management has a striking difference with that of industry, business and economy; it is obvious that this difference in the nature of knowledge can have an extreme impact on the discovery, use and spread of knowledge in construction projects and, therefore, can bring about a very dynamic and flexible environment for knowledge-management in the field of construction.

As a result, we have to pay attention to the qualities and features of knowledge-management in the field of creating culture and to the enormity of the number of the buildings constructed; then we have to specify the extent, the means and the infrastructures required for creating this knowledge in organizations that have adopted a trend like this (Samadi, 2007).

Transfer of Experiences via Knowledge-Management

Hoarding knowledge is an innate aspiration among people in an organization; however, transferring knowledge and experiences can bear fruit provided that an appropriate, knowledge – oriented approach is being adopted. In fact, organizations following a more transparent strategy of transferring knowledge and experience are more successful. A well-designed knowledge strategy causes great improvements in the management and exchange of knowledge. That is why in organizations enjoying a strategy of knowledge-management, transferring knowledge and experience turns into a part of their business process and the members of the organization, especially its managers , are always facing questions like: How can we improve the methods and the process of doing things through transferring and sharing knowledge and through using other's experiences? How can we get to know and

transfer the facts and the issues that the organization is dealing with? How can we get the better of and be the best in what the organization do?

By creating an appropriate attitude towards transfer of knowledge and experiences, knowledge-management would strengthen the process of the exchange of knowledge . The belief that knowledge is transient and will gradually die away and it will live short if not used; or through the exchange of knowledge you can earn more knowledge is a belief of this nature. The process of the exchange of knowledge causes the ideas and thoughts to turn into words and writings and helps people to re-form and improve their ideas again.

Although getting to a knowledge- oriented organization in which the exchange of knowledge via knowledge- management approach happens successfully is difficult but not impossible, organizations can improve the present status of the exchange of knowledge process through employing the existing models that tell us how to implement the knowledge- management in development – oriented entities. To strengthen the poor bonds of the existing sequence of knowledge, we have to take effective measures and move forward towards a better use of the present organization knowledge fortunes (Khorghani, & Selseleh, 2007).

Knowledge-Management & Science and Technology Parks

Lack of a consistent bond between research, technology and development on the one hand , and the great distance between turning the research and scientific ideas and potentials into services and products on the other, are among the facts of this world. To solve the problem, developed countries put the whole body of science, technology and industry together, as of the formation of the ideas to the commercialization of its final products, under a system called “ the innovation system “ . One of the components of this system is the science and technology parks that play a significant role in bringing together the production of knowledge and the presentation of its products and services. In our country, a noticeable amount of work is underway in science and research parks; however, it seems that these parks are mostly involved in non-civil or non-developmental projects like building and construction, which is considered a weakness for the Civil or Development Society of Iran. Perhaps the Civil-engineers Organization, the Housing Research Center, the Dynamic Science and Research Insti-

tute for the Civil-engineering students can partially take care of these shortcomings .

Knowledge-management approach can play a significant role in bringing together the knowledge and technology. Being close to the vital sources of intellectual assets, proper infrastructures and protective policy-makers, science and technology parks support, in a managed environment, the governmental entities and the companies that use technology; and through the combination of the knowledge-management approach, they can facilitate the development of technology and the growth of economy.

Conducting the knowledge-management approach in the science and technology parks helps us to render better qualitative solutions in industry and service companies via promoting knowledge processing. It helps us to strengthen and spread knowledge, increase its profitability, productivity and effectiveness and eventually produce services and products with a higher quality. In addition, knowledge features are discovered and the manner in which they are used is invented. Knowledge-management approach helps the dissemination of knowledge among intellectuals and creates, maintains and revives the merits of knowledge, industry and universities.

Knowledge- management process discovers the intellectual or knowledge-oriented assets in the organization, wherever they are; and turns them into a wealth - producing source. By optimizing the process of identifying, selecting, organizing, summarizing and classifying the required knowledge, the competition capability is improved and the decline of knowledge is prevented (Khorghani, & Selseleh, 2007).

Developing the Knowledge-Oriented Human Resources

The hidden fact in the knowledge- management literature is that all the ingredients of knowledge-management materialize only through human resources. In other words, it is assumed that, after dealing with all the issues contained in the knowledge-management, all the developments that happen originate from the human resources and the think tank section of the organization. Thus, allocating a specific part of the knowledge- management discussions to the knowledge -oriented human resources and to the quality of development instruments, as a means of increasing the knowledge-management effects in an organization, would be imperative (Ghiyasvand, & Ruhani, 2008).

Conclusions

Bearing in mind the above- mentioned facts, it is necessary to implement the following recommendations, which have their roots in organization knowledge-management, in all development organizations around the country:

- assessment of the powers and potentials of development organizations .
- prioritizing the functions of the organization according to the structure of each individual development organization (in the coming articles on knowledge- management and how it is implemented in the existing development organizations, the assessment and evaluation processes are described) .
- unearthing the problems and offering solutions for the present faulty structures .
- purging the organization in accordance with the structure and framework of the development organizations with an eye on the priorities of the knowledge- management process .
- preparing the organization for a dynamic presence in the future activities and preventing the destruction of implemented plans via knowledge-management .
- introducing approaches that lead to a new structural development following the growth and development of human knowledge .

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