



Examining the challenges of knowledge management in project-oriented organizations (case study: Baharenkoo Group of Institutions)

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Abstract

Today, one of the problems of project-oriented organizations is the creation of a knowledge management system. This research examines the challenges of knowledge management in the Baharenko Group of Institutions as a project-oriented organization. First, the literature of the subject was reviewed, then similar researches in Iran and abroad and their results were collected, and then the method of this research, which is a process of hierarchical analysis, was presented. In the end, it is suggested to the project management office of Baharenkoo Group of Institutions to design a system to facilitate access to two important types of knowledge, knowledge about contacts and knowledge about who knows what.

Keywords: Knowledge management, Project-oriented organization, Baharenkoo



Introduction

Today, project-based organizations are widespread in almost all activities. These types of organizations create complex problems for information and knowledge management due to the dispersion and non-uniformity of organizational structures, processes, procedures and technologies. (Maria Vaz & António Lucas, 2014) On the other hand, knowledge is a vital asset for every organization today. Despite the temporary nature of projects, proper knowledge management can improve results and generate profits in the future. However, an effective knowledge management system must be designed for each organization. (Pereira et al., 2021) Therefore, knowledge management is recognized as a factor for project success and the performance of project-oriented organizations. (Koskinen & Pihlanto, 2008)

Baharenekoo Group of Institutions is one of the most active non-governmental organizations in the field of family and social harm. (Mogheli Gerashi, 2022) On the other hand, this group of institutions is considered a project-oriented organization, and the activity of these institutions in the field of family and social harm is done in a project-oriented manner and by setting up a project management office. The project management office in the group of Baharenekoo knowledge-based institutions is at the 3rd level of maturity. (Mogheli Gerashi, 2022) And so far, he has implemented many projects in the fields of pre-marriage, marriage, post-marriage, art and literature projects related to the family, and special charity projects for the problems and social harms of families in the form of 7 institutions.

For this reason, examining the challenges of knowledge management in this project-oriented organization is of great importance.

A review of the literature

In this section, we examine different definitions of project-oriented organization and knowledge management and review the challenges of knowledge management in project-oriented organizations.

Project-oriented organization

A project-oriented organization is an organization that manages projects and manages its activities through projects as temporary structures. A project-oriented organization manages a variety of internal and external projects and uses project management as a specific business process. The organization usually has a dedicated permanent department such as a portfolio group or project management office for its administration, which has the ability to deal with uncertainty, conflict, change and collaboration. (Gareis & Huemann, 2007)

Project-based organizations can exist in the public and voluntary sectors as well as in the private sector. In addition, a project-oriented organization can also be a separate organizational unit within a larger organization. (Mitrev et al., 2017)

knowledge management

Knowledge management is an amazing combination of strategies, tools and methods. Some of them are not new. Storytelling, mentoring and learning from mistakes are all superior to training, internships and AI activities.



Knowledge management uses a combination of methods derived from knowledge-based system design, such as structural knowledge acquisition strategies from technical experts and educational technology. (McGraw & Harbison-Briggs, 1989)

Of course, knowledge management from an organizational point of view includes receiving and maintaining knowledge along with valuing intellectual assets. Knowledge management in an organization is the deliberate and principled coordination of an organization's people, technology, processes and organizational structure in order to add value through reuse and innovation. Such coordination takes place through the creation, sharing and application of knowledge, as well as the introduction of valuable lessons learned and best practices, in the memory of organizations in order to increase and strengthen organizational learning. (Stewart, 2000)

Challenges of knowledge management in project-oriented organizations

The development of knowledge management in project-oriented organizations inherently faces challenges; As temporary structures, projects are characterized by unique characteristics that pose special challenges for knowledge management. (Schindler & Eppler, 2003)

Some other basic challenges of knowledge management include setting up content effectively, facilitating collaborations, helping scientists to communicate and find experts, and helping the organization to learn and make decisions based on knowledge, data and comprehensive, valid and defined information. Interpreted. (Dalkir, 2013)

Similar studies

In Iranian researches, in the year 2011, Safari identified and prioritized the success factors of knowledge management in project-oriented organizations and determined that knowledge management processes in projects, project management methods, organizational culture and training are the most important in the success of knowledge management in project organizations. Also, the control of knowledge management activities has the least importance among the identified factors. (Safari, 2011)

In 2013, Salehi Talshi and Hossein Alipour identified and prioritized knowledge management challenges in the project management office of project-oriented organizations, and their findings indicated that the challenges of people's resistance to change are due to the organizational culture and lack of application of the experiences of successful project managers of the organization. They have the highest importance in design and independence, and on the other hand, the lesson challenge of individuals sharing their tacit knowledge was assigned the lowest score. (Salehi Taleshi & Hoseyn Alipour, 2013)

In 2014, Sepharband investigated the challenges of successful implementation of knowledge management and its implementation strategy in project-oriented organizations, and in it he addressed the challenging nature and difficulty of implementing knowledge management in project-oriented organizations of Iran's construction industry and provided solutions for it. (Sepehrband, 2014)

In 2016, Saeedi presented a conceptual model of elements influencing the establishment of knowledge management in project-oriented organizations (case study: Fullman Company) and showed that the element of senior management



has the most importance and the most impact, and the other elements in order of importance are: project management Organization, culture, organizational infrastructure, motivation, middle management, human resource management, knowledge management architecture, technical infrastructure and continuous improvement. (Saeedi, 2016)

In 2017, Masoumi Kalati presented the model of knowledge management system implementation in project-oriented organizations (a case study of the Engineering and Civil Engineering System Organization of Tehran) and showed that "leadership and support of senior managers" has the highest rank among the factors. Calculated on project knowledge management. (Masoumi Kalati, 2017)

In overseas research, Vaz and Lucas in 2014 in an article entitled "Knowledge sharing in project-based organizations: overcoming the information limbo" showed that balancing the mechanisms of knowledge codification and personalization is a possible solution to overcome the problems of knowledge sharing in project organizations. is the axis. (Maria Vaz & António Lucas, 2014)

In 2018, Anandasivakumar et al examined the role of big data and knowledge management in improving projects and project-based organizations, exploring how big data can help enhance knowledge management in projects and project-based organizations; What kind of pitfalls, challenges and opportunities exist with the interaction between knowledge management and big data and how this interaction can improve projects so that projects are carried out effectively and efficiently. (Anandasivakumar et al., 2018)

In 2021, in an article entitled "Knowledge Management Maturity Helps Project-Oriented Companies in the Age of Open Innovation", Pereira et al. showed that European project-oriented organizations are halfway to implementing knowledge management systems. While the need for a suitable system was already identified; But the infrastructure to support it still needs to be developed to actually take appropriate action. (Pereira et al., 2021)

Method

Eight types of knowledge are vital in project-oriented organizations, which are 1. Knowledge of project management 2. Knowledge about procedures 3. Technical knowledge 4. Knowledge about customers 5. Costing knowledge 6. Legal and legal knowledge 7. Knowledge about suppliers and 8. Knowledge of who knows what. (Shahram et al., 2014)

To evaluate the importance of each type of knowledge, the survey forms were distributed among the seven officials of the Baharenekoo Group of Institutions, and finally, seven completed forms were returned.

In this survey, respondents were asked to rank eight types of knowledge, from 1 least important to 8 most important, during four stages of the project life cycle. After collecting the data and entering it into MS Excel sheets, Analytic Hierarchy Process (AHP) was used to analyze the survey responses.

This technique is a process that uses a weighted matrix to analyze complex information in multi-criteria decision making. (Ghodsypour & O'Brien, 1998)

After analyzing the rank of each type of knowledge in different stages, another review was conducted to determine the overall rank of eight types of knowledge without considering the stages of the project life cycle.



Similarly, the AHP technique was used to determine the appropriate weights for each entity, then their weight percentages were calculated and ranked, as shown in Table 1.

Types of knowledge / project phase	Individual rank				Total weighted rank	
	initial	planning	executive	Final	rank	Percent
Knowledge of project management	4	4	7	7	6	14.86%
Knowledge of procedures	2	2	1	8	3	8.78%
Technical knowledge	1	5	6	1	3	8.78%
Knowledge about customers	8	7	8	5	8	18.92%
Costing knowledge	7	6	4	3	5	13.51%
Legal and legal knowledge	4	1	5	3	3	8.78%
Knowledge about suppliers	5	4	3	4	4	10.81%
Knowledge of who knows what	6	8	3	6	7	15.54%

Table 1

Results

According to the research findings, the first four important types of knowledge at the first level of maturity are: 1. Knowledge about the customer, 2. Knowledge of who knows what, 3. Knowledge of project management and 4. Costing knowledge.

It is argued that the project management office should develop a project management framework to create a common language between project environments. However, the Project Management Office of the Baharenko Group of Institutions is proposed to design a system to facilitate access to two important types of knowledge, knowledge about the audience and knowledge about who knows what.

Considering that the priority of knowledge management is to absorb knowledge, create knowledge, transfer knowledge and reuse knowledge, (Shahram et al., 2014) In the third maturity level of the project management office, the awareness of knowledge management should be increased by this office, and the first priority should be on improving the methods and processes of knowledge absorption.

It is also recommended to make knowledge creation a second priority by developing appropriate practices. The third important process of knowledge in the first level of maturity is the transfer of knowledge, which can be managed by developing some basic methods such as training and guidance, but the improvement of this process depends on the absorption of knowledge.

In addition, it is better to integrate both project management and knowledge management methods from the beginning to avoid any inefficiency; Because the project management office is responsible for providing useful systems and practices to help project team members to manage knowledge, which can be done in the following ways: 1. Project management knowledge through the provision of project management methodology, 2. Knowledge about the audience



through the development of practices Proper project management and 3. Knowledge of employees who engage in proper knowledge management practices.

Finally, it is recommended that the project management office should focus on understanding current project management systems in order to properly apply them to achieve project management goals and integrate with knowledge management.

Discussion

On the one hand, the studies related to knowledge management in project-oriented organizations are very limited, and on the other hand, the selected case study is related to projects related to social and family harms, which cannot be generalized to other project-oriented organizations.

As the results of Iranian and foreign research showed, knowledge management plays a big role in the success of projects in project-oriented organizations, and this is also true in the Baharenekoo Group of Institutions. That is, the more the implementation of knowledge management is done correctly, the more success indicators of projects will be achieved.

It is also suggested that other researches in the future develop a model for the knowledge management process in project-oriented organizations.



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