

ARTICLE

HUMAN RESOURCES MANAGEMENT IN PROJECT-BASED ORGANIZATIONS ACTIVE IN THE CONSTRUCTION INDUSTRY

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ABSTRACT

Today projects are widely implemented in all organizations and few organizations can be found that is not in some way involved in implementing a project. Projects as a means of change are defined as a temporary organization and different resources are organized in them in the new form to achieve certain goals within the constraints of time, cost and performance. Projects as temporary organizations operate in a context that this context has synergistic effect and inhibitory effect on the actions, resources and relationships of temporary organization. A major part of the project management literature is based on the assumption that temporary organizations (projects) are formed within the boundaries of permanent and fixed organizations and they are expected to have longer life than the life of each one their projects. In this article in a broader framework we will examine human resources management procedures in project-based organizations and a general category of human resources management models will be presented. Also in this article the main pillars of research-based organizations and the challenges of human resources management in these organizations have been studied and a prioritization of these challenges will be presented.

INTRODUCTION

Infection In the world of project-based organizations, this environmental platform is called the parent organization of project that is considered one of the three groups having impact on project success. It is the parent organization in which the projects are formed and without it, there is no possibility of defining projects in many cases [1]. In the past decades a fundamental shift is seen in how professionals work. Works have become more sophisticated and have been directed towards being knowledge-oriented and as a result, employees prefer to participate at work groups instead of doing individual work. Most analysts believe that one of the main drivers to develop work groups is availability of complex products and systems that force organizations to develop their own strategies in order to take advantage of the advantages of applying integrated solutions, system integration and project business. The important point in this shift is an approach to being project-based that force organizations to simultaneously have integrated look at temporary and permanent organizations to be able to carry out economic activities at playing a role in work between the temporary (project) and permanent (functional) organizations that is the origin of the development and creation of project-based organizations in today's economy.

Since the focus of this research is on project-based organizations, it is necessary first to provide a clear description of these organizations. Generally, project is seen in the common definitions in the form of duty, temporary, complex and unique duty individually or collectively; but in today's literature project is considered as a particular type of a temporary organization. The project, therefore, is an organization of smaller organizations with the following characteristics:

- has an unusual and unique process that results in the unusual production and generally includes uncertain technological tasks.
- has a predetermined time limit. For this purpose that work implies a period of time and thus the time pressure.
- has performance evaluating measurements such as time, cost, quality, value creation and profit
- In terms of activities, roles and internal dependencies are complex and uncertain that requires conscious organization.
- has dynamic and organic structure with unofficial behavior and in terms of specialty has flat and horizontal structure and serves as decentralized work teams.

Tend to highlight the projects and project-based work has increased in recent years. The reason of it is organizations' need to take advantage of appropriate structures to respond to highly privatized and diverse demand, especially for organizations in the creative, cultural and developed technology industries as well as professional consultations industries. Another reason is that the interest of organizations in all sectors of industries to carry out project activities, in spite of main size or operational performance of their production activities, has been increased. Many researchers differentiate organizations that most of their activities are projects or emphasize project aspect as well as organizations with operational and structural dimensions and normal processes are dominant in it and the projects are as the side activities to support the organization's main activities [3].

KEY WORDS

Human resources management, project-based organizations, human resources functions, knowledge absorption capacity.

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PREVIOUS STUDIES

Turner and Keegan define project-based organizations as "an organization in which major produced products and services are contrary to the default designed plan for customers". This inevitably puts the organization in a project-based class because products have been personalized according to customer needs. However, management still requires the adoption of project-based solutions as strategic choices. According to Garis, if an organization considers itself a project-based one and its policies, procedures and culture are according to this state, it is considered a project-based one.

This workspace has some characteristics that make it different from traditional work environments of large enterprises with classical management, these characteristics include the following:

1. The temporary work processes: Project-based organizations use temporary structures (projects and programs) to get things done. Whenever a new project or program or is initiated or prior project is ended, human resources management settings of parent organization is changed. Therefore, organizations need not only human resources management procedures in the organization, but also need the application of specific procedures for temporary organization or the project. This involves the need to develop new human resources management procedures such as assignment of force to the projects, estimating, developing and rewarding to them about the duties of a project, discharging them after the end of the project and the relationship between project tasks and resume of individuals.

2. Dynamic work environment: The temporary nature of things leads to the creation of dynamic range and work context that may affect stress and motives of workers of project and creates the need to develop strategies by managers to adapt to stress. In addition, the number and size of projects under construction may constantly change and makes it difficult to predict future required resources.

3. Roles and resources requirements for project portfolio: A project-based organizations at any time undertakes a specific portfolio of internal and external projects. One person may be working simultaneously in several projects and even with several different roles. Such conditions can lead to role inconsistencies role at the individual level. Organizations also need human resources management procedures to assign individuals to several projects and programs and facilitate common requirements across projects and plans as much as possible.

4. Specific management paradigms: An ideal project organization has a special management culture which has attributes such as employee empowerment, teamwork and process-based work, discrete and continuous organizational changes focus on customer and networking with suppliers and customers. Therefore the project employees require specific competencies and skills in order to be able to operate simultaneously with each other in a project. So project organizations may need training procedures and development of employee so that employees are able to work in the project environment which in turn requires special adaptation to human resources management procedures in this field in accordance with used management paradigms. Therefore the project-based organizations need the adoption of human resources management which supports methods of project operation.

Studies related to the projects mainly have focused on the study of a project regardless of its executive field. Angola (2003) in a comparative case study comparing two different projects, discussed different performance reasons of them. He first criticized the theories presented with the dominant view of single project and states that the context in which the project is run has a major impact on the performance of the project. Several studies consider projects as temporary organizations that are run in a practical context, namely the permanent organization. Permanent organizations formed to carry out common and repetitive tasks, are supportive with lots of applications involved in the implementation of a series of the projects and possess key resources and knowledge (Galbraith, 1994) and are led to economies of scale. In a given situation, any one of these two types of organizations can be stronger than others, and finally, a spectrum be formed that at the one end of it is main overcoming with the permanent organization and at the other end is overcoming with the temporary organizations (project). In the middle region of this spectrum, for example, there are consulting firms and contractors of construction projects that are project-based organizations and can have project management office or the office of plan management [4].

Turner and colleagues (2008) investigated human resources management in project-based organizations with a focus on employee health and ethical behavior modification. In this study, in the broader context of human resources management practices in project-based organizations they investigated employee health. Project-based organizations through temporary work processes provide required products and services for customer. This results in a dynamic work environment that through fluctuations of work intensity, uncertain requirements and the need for multiple roles can cause additional work pressure on employees. This pressure may lead to issues concerning health and ethical behavior of employees that requires management. Human resources management traditionally plays two roles, first it provides the necessary support to the management and proper people for the organization to cope with things, and also it provides necessary support of employee and considers their health important. It has been observed that in project-based organizations the role of support of the management is the dominant role that these systems do not consider the health of employees very important. The need for profitability and response to

customer demand usually takes priority over the health of employees. However, some of the studied organizations have selected human resources management procedures to protect employees' health. In addition, providing job promotion opportunities is equally important for the organization and for the employees and they refer to it [3].

Pupaiton and Singtay (2013) investigated moderating effect of human resources management practices in relation between knowledge absorption capacity and performance of the project in project-based companies. This study in response to recent requests for research on human resources management in project management examines relationships between human resources management practices, knowledge absorption capacity of the project team and the project function in the project-based companies. This study based on survey data show that human resources management practices modify knowledge absorption capacity of the project team on project performance, particularly in the field of long-term performance potential in the project. In addition, human resources management practices are realized by understanding the absorption capacity of the project team by a project team that is an extra dimension of the project team knowledge absorption capacity in order to achieve short-term performance of the project. This study clarifies the various roles of human resources management practices in a project and shows that human resources management practices not only facilitate knowledge management of current projects and future projects but strengths the relationship between knowledge of a project-based team and long-term performance of project [5].

Sabirkhan and Rashid (2014) examined performances and success of human resources management with a focus on Islamic countries. In this study, the relationship between human resources performances and the success of projects in project-based organizations in Pakistan has been simulated. This study makes direct modifying hypotheses for the relationship between the four selected functions of human resources (recruitment and selection of employee, employee development and training, employee performance evaluation and salary system of employees), project success and Islamic work ethics at project-based organizations in Pakistan [6].

Mohaqar et al. (2013) examined and identified the parent organization functions as a case study of project-based organizations active in the construction industry. Based on the case analyses, seven main functions for project-based organizations have been identified. By specifying these functions, project-based organizations should move to develop the necessary capabilities to perform them better and formulate and implement policies and strategies in this direction [4].

Asili (2013) strategically analyzed structural model and the role of human resources management in project-based organizations. In this article it was tried to scientifically analyze the structure and role of human resources in the project-based organizations with an new approach and with explaining the topic literature in the fields and project-based organizations, key roles of actors in the four aspects of human resources, structure of human resources in these organizations. The research also hints suggestions and strategies for use of human resources management in similar organizations in the country [2].

Golabchi et al. examined the effect of human resources management on efficiency in project-based organizations. In this study, they have tried to examine management texts to find out importance of human resources management in increased efficiency of project-based organizations. This article provides a logical research about the importance of human resources management in efficiency of project-based organizations that the aim of it is the systematic study and investigating the effects of human resources management as one of the areas affecting the efficiency of the organization. In order to achieve this objective, two analytical and statistical stages are offered: In the analytic stage, the need to improve human resources management has been studied and in the statistical method, the carried out survey and the obtained results are discussed using graphical charts. This systematic approach can result in providing justifiable and rational guidelines, and practically is used for the management and improvement of the efficiency of human resources and organization [7].

Shenhar et al (1997) provided an important distinction between performance evaluation of project at short and long term. Project performance in the short term includes the completion and efficiency of the project and its commercial success. In contrast, project performance in the long term refers to created potential by project for future projects. Short-term and long-term aspects of project are similar to nature of continuous development projects of product (Wheelwright and Clark, 1992). Thus, company maintains most of the nuclear members of formerly successful project and passes them on future projects. Rashnovadi and kahzadian (2012) examined human resources management in project-based organizations. In their article, they provided research in the field of human resources management and human resources management challenges in project-based organizations and matrix of excellence in project oriented organizations [8].

DISCUSSION

Man as focus in topics of organizational behavior and human resources management has a special significance in new management. Project human resources management includes the processes are necessary to achieve the most effective use of people involved in the project which it should be considered as the main process of a project-based organization that causes impact on the method of absorption and utilization of human resources and how to perceive business relations by them. Human resources issues can be analyzed on two levels of strategic human resources management and operational management of the human resources, operational management of human resources focuses on functional issues such as employee absorption plans as procedures before entering of the workforce to the organization, performance management, compensation, development and employee relations as processes during work in the organization. Strategic human resources management follows labor efficiency, increased labor force creativity and innovation, creation and enhancing employee commitment, increasing better services from the customer perspective, the improvement of the labor force role in developing and executing organizational strategies as a part of their changing roles. In general, human resources management models can be classified in four categories as following:

1. Scientific management: In this model, human needs are limited to material. Therefore, with meeting the material requirements employee should respect what the director says. There is no wonder that with this model as axis easily skilled and creative workforce with only a small amount of additional salary goes from a company to another company.
2. Management based on human relationships: This model considers the feelings of humans as well. Therefore, man in this model is not only with the stomach but also has heart. But this management method is often a patronizing-father one. When a conflict, the director claims has better understanding and knows goodness of his employee better than them. Finally, this model is not perfect, like the first model.
3. Human resources-based management: humans have talent as well. In this model human being has the abdomen, heart and brain. The director tries to provide what is needed to develop the talent of its employees. But this management technique is not institutionalized with satisfaction (although in the short term is better than the first two models) because still employees are not seen as perfect humans.
4. Management according to principles: human beings in this view have the abdomen, heart, brain and soul. In this view, employees want to be informed of the mission of project and they get committed to pass the way.

Human resources management is management of employee. The proper functioning of an organization requires making sure of human resources availability that can have a beneficial function in order to achieve organizational goals. According to economic changes and local and global improvements, many changes occur that are effective on a wide range of aspects of human resources [8].

In a study entitled as Global HR Challenges: Yesterday, Today and tomorrow, by the WFPMA organization and by Paris Waterhouse Cooper, several problems have been noted in the field of human resources management. In a study conducted by Golabchi et al., the most important challenges of human resources management are shown in [Table 1]:

Table 1. Prioritizing human resource management challenges [9]

% companies	Challenges	row
48%	Change management	1
35%	Leadership Development	2
27%	The effectiveness of human resources	3
25%	Organizational effectiveness	4
24%	Reward and penalty system	5
24%	Employment and the availability of local skilled labor	6
20%	Succession planning	7
19%	Training and Development	8
16%	Retention of staff	9
13%	Cost of Health and Welfare	10

There are different definitions for project-based organizations. In this organization, project structure is the dominant structure. For example, Habdy defines these organizations in this way that in them, the project is the basic unit of production, innovation and competitiveness in which there is no formal functional coordination across lines of project. Fourth Edition of PMBOK of organizational structure in terms of the level of discretion of project manager defined as follows: functional, project and matrix. Functional structure is the most common form of organization. It includes the expertise areas in various functional

areas including: accounting, marketing and manufacturing and projects generally occur within a single segment and if the data or project work is required from other sectors, the needed request is informed head of section to pass to head of another section. Otherwise, communication is within the project, team members would complete project in addition to the usual department works. On the other hand in the project structure, the company is organized on a project basis. Project manager, controls project, employee is dedicated to the project and reports are given to the project manager. Team members perform only project works and when the project ends, the employees do not return to a certain section, they should be work on another project or start another work with another employer, in general, communication occurs only within the project. In a matrix organization, it is attempted to maximize the available strengths of both project and functional structures. Team members report project manager and functional manager and are associated with both their heads and team members do project work alongside the routine works of the department [9].

The main components required for a project-based organization to develop a complete system are shown in Figure 1 are explained as follows:

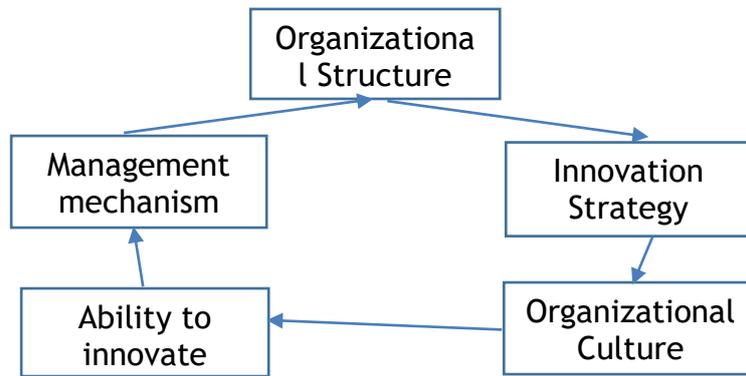


Fig: 1. The main elements of project-based [10]

As seen in this figure, a research-based organization is made up of five main pillars:

- **Organizational Culture:** People are encouraged to experience anything new and tolerate failure to be not afraid of the risks and be encouraged in innovation. Every organizational culture is used for the operation and management of it so project-based organizations should have innovative organizational culture to have innovative performance and management so that employees' motivation and initiative is resulted.
- **Ability to innovation:** these organizations should have a good power of innovation and innovation management capability, because they need to innovate for survival and development, and it is why it is the most effective initiative and efficient way to survival and development.
- **Management mechanism:** If we want to encourage people to have initiative and creativity, management mechanism and style of the organizations or companies should be based on management by project. They should act based on teamwork, self-management and dynamics at project and operational work, therefore, the management system and style of these organizations should be based on self-management so that individuals of these organizations or companies are encouraged in the innovation.
- **Organizational structure:** Although these organizations have operational or routine tasks and projects or individual tasks, they do their everyday operations as a project and adjust their project management methods with all necessary works for survival and development in the competition and improve their innovation capabilities and competencies.
- **Innovation strategies:** organizational culture of these organizations or companies should have shared values in innovations and should emphasize the importance of innovation. The core of the culture of these organizations should encourage individuals to gain new experiences with motivations to increase innovation [10].

Finally, seven main functions were identified for project-based organizations that are introduced as following. Figure 2 shows these functions:

Monitoring
and

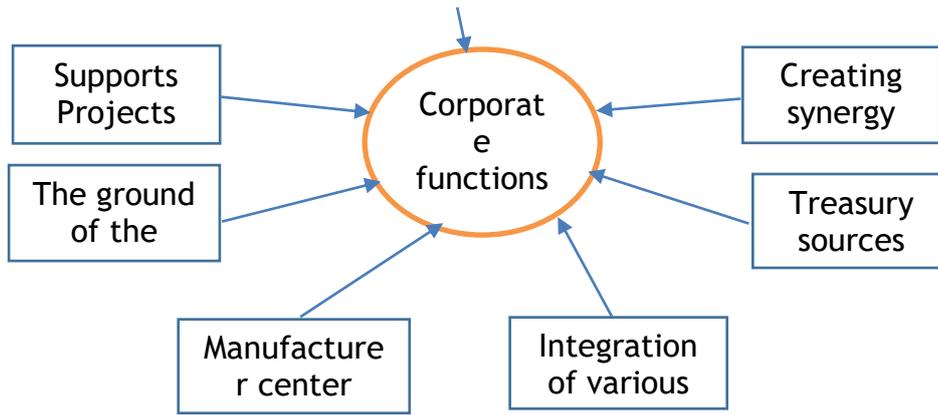


Fig. 2: Karkrdhay project-based parent organization [4]

In comparison with functional and matrix organizations, project-based organizations has been introduced an organizational form to manage the growing complexities of the product, rapid changes in the market, innovation and technological uncertainty especially if systems and industrial products have high value and complexity or advanced and high-tech capital goods are targeted. Companies often to enhance flexibility, adaptation and customer orientation turn to the project organization. At project-based organizations, project is the main unit of production, innovation and competitiveness. Also in this type of organization, project is the main mechanism for coordination and integration of organizational functions of a company and the whole organization is formed around various projects in which people with different skills come together to produce innovative products and services at limited intervals of time [4].

Putting people at the activity center as a designer and manufacturer of development directs us to pay attention to four factors reinforcing improvement of human resources, factors that release spirit of getting successful that there is potentially in each one of us. These four reinforcing factors that each one has integration and interdependence with each other are employment, environment, health and education. These factors are shown in [Fig.3]:

Strengthening factors of improvement of human resources			
Education	Health	Environment	Occupation

Figure 3 - Factors to strengthen the improvement of human resources [9]

In literature of project management, human resources management practices have favorable effects on the performance of the project (Heumann et al. (2007)). Pinto and Slevin (1988), argue that human resources is an important factor in the success of the project, while other researchers such as Blavet and Gavuriao (2004), Fabi and Paterson (1992) and Heumann et al (2007) in their analysis discovered the effect of human resources management on project operations in order to facilitate access to intended project performance. Project-based companies use temporary organizational structures for the implementation of their own work through the projects. In this regard, scientists such as Souderland and Burdine (2006) and Turner et al (2008) argue that human resources management practices adopted by the POC should be applied in a certain form at interim approved work processes Therefore, human resources management practices in the POC may be perfectly different from available practices in the classical model of management due to designing international human resources management practices among individual projects [5].

Researchers of strategic human resources management have continually stressed the importance of reviewing performances and multiple ways rather than focusing on a specific action and the role of these methods in human resources development of an organization in order to increase business competitive advantage (Barney and Wright (1998). Moreover, Delry and Doty (1996) suggest that: SHRM "The initial assumption is that the organization that has adopted a specific strategy needs human resources management practices different from organizations that use alternative strategies". It has been expressed with referring to the significance of certain human resources management practices in a certain working environment. The impact of performance of human resources management practices can be more effective when implemented in the right place or fit the project environment. Accordingly in this research, human resources management practices that are considered include education, rewards and career path development that have been identified by Turner et al (2008) and other ways have been added to it to increase opportunities for project team members (for example, partnerships and independence of project team). These procedures are used to improve project performance [6].

Experimental studies show that human resources management practices are positively correlated with project performance in both short-term and long-term forms. For example, for short-term performance, Chen and Huang (2009) found that human resources management practices with increased acquisition capacity, knowledge sharing and planning in Taiwanese companies can have a positive impact on innovation performance. Chuang et al (2010) also found that human resources management practices contribute to the process of acquiring knowledge and sharing it and have important role in creating resources and capabilities of knowledge. According to long-term performance, Swart and Kani (2010) by a multiple case study identified human resources management practices to determine the rate which education unit is supported. In addition, human resources management practices makes a clearer vision of the future that may lead to providing better support and as a result better performance of the project. Overall, human resources management practices in order to achieve the project performance in both the short and long term cases help project teams so much [6].

RESULTS

Since the treatment for project-based organizations, due to the use of temporary methods of work processes in the form of projects is different from the traditional organizations with classical management, accepted approaches in the field of human resources management must support this unique structure. Therefore, taking into account the temporary nature of projects in project-based organizations, functions and approaches of human resources management must evolve in such a way that act in line with the objectives, strategies of organization and operational processes of organization. Also the specific functions and procedures should be implemented for satisfaction of employee in the workplace. Ignoring these considerations may affect employees' efficiency and effectiveness.

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