Human resources management main role in information technology project management

Hamid Tohidi *

Islamic Azad University, South Tehran Branch, Tehran, Iran

Abstract

Today the information technology is indeed a base of development for countries and a benchmark practice for leading and successful organizations. Success in this area depends on the success of micro and macro projects of information technology, and this success is not achievable unless all aspects, especially the most valuable element, e.g. the human resources, are considered. Because the policies related to human resources in the projects are changing, so the roles of managers of IT projects will also change in this regard. In this paper while reviewing some of the challenges in the field of information technology and human resources, factors affecting the success of IT projects such as the need to redesign jobs, more attention to personality characteristics of individuals in the process of recruitment, role of education in development of Information Technology projects and ... have been considered. This research has tried to pay attention to three perspectives of individual, job-related, and organizational which from the point of view of these employees, individual perspectives and then job-related perspectives and ultimately organizational perspectives were effective in the success of the IT projects respectively. It is interesting to note that the employees have implicitly noted the major roles of the human resources of the managers of the IT projects in improving performance as one of the effective factors.

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1. Introduction

Today, speed of development in the field of Information Technology is such that most thinkers look at it astounded and try to assess and measure and demarcate its boundaries of influence. Although the impact of this technology booms in different fields of science and has an indescribable prosperity to scientific interactions of the world but has also followed concern in different fields of social and human resources. Certainly those who work and are active in this area and offer the use of this technology to others are themselves concerned by these fast changes and necessarily need to consider ways and new strategies to improve performance and prevent possible risks and must provide correct and applicable solutions for planners and managers of organizations, for decision-making and policy-making. Nowadays models of project management are fully professional and give emphasis to quality and creativity.

The role of the manager, is coaching and entrepreneurship, and that is why a manager who in the past could easily do management work anywhere and with any discipline, must now be fully professional and have excellent

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* Hamid Tohidi. Tel.: +989123079694.
E-mail address: H_Tohidi@azad.ac.ir.
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appearance and be able to work with people and that is why the manager must have a global perspective to the issues and topics and this attitude in the field of IT project management is much more bold.

 IT project manager must be careful that in accordance with his fundamental roles cause growth and excellence in the project and know that if for any reason these roles do are not well provided, it can defeat the project. Sometimes the managers of information technology projects, take responsibility for these roles and sometimes ask for help from human resource management professionals in this regard, so the following points is essential to note [5]

 - Consideration of the main strategies and project planning with human resource management principles and their timely implementation

- Consideration of the structure of the organization which is to undertake the project and designing and delivering effective human resources processes for recruitment, training, and etc.

- Management, is employees contribution which, in this role, IT project managers try to increase employee commitment and capability through "the role of supporting staff". They manage employee contributions by providing employees with opportunities.

- Creating necessary capacity for change and transform in information technology projects in accordance with the principles of organization's culture

Also, research that was conducted in Japanese banks they found that to obtain the maximum benefits they must manage their information technology capabilities and their human resources more efficiently [5,1]. Managers or players of the role of human resource professionals with regard to these points in fact manage the strategic activities and help create human capital and cause the development of these resources.

1.1. Some factors influencing the success of IT projects from the perspective of experts:

Attention to personality characteristics in hiring project team members:

   The first action in the field of human resource management is recruitment and supplying the manpower and if this step is not done correctly the presence of improper people in the project causes obvious and hidden problems. Therefore, attention should be given to personality characteristics of individuals. In IT organizations, hiring qualified people is very important meaning individuals who are self-reliable and responsible are suitable for IT projects[2]. For example, if your personality fits with the character of an expert on information technology then you are weaker in the field of communication (feeling the issues) and stronger in the decision-making field (qualified to judge). Most IT professionals are introvert and often lack communication skills such as the following:

- Support skills: Friendly and conservative performance, possess patience, empathy with people who are upset or have concerns and support for them, listening to complaints and problems and attention to interests of people

- Training and guidance: providing training and useful advice, providing context for a person to facilitate skills training, entrepreneurship and improving businesses

-Attitude management and team building: Resolving attitudes and conflicts, encouraging individuals for teamwork and identifying business units

- Networking: communicating with people informally, communication with people who have good information, maintaining periodic relationships, such as meetings, phone conversations, correspondence, and attending meetings and social events

Many leading information systems consultants believe on the idea that 80 percent of project management, is communication. They are not wrong. To communicate effectively is one essential condition of any project and the lack of it, even when the project has a strong technical foundation often leads to failure. So IT managers should have effective efforts in maintaining structure of effective communication while it is being designed and also in employment of people in projects, to pay attention to their personality characteristics and use them in appropriate positions.

The abilities of technical staff:

 Increasing investment in information technology has an important relationship with the general growth in use of high knowledge and need for workers with advanced knowledge. In other words, one of the major reasons for the success of IT projects is technical abilities of the people who work in the project. Also in our country the success of IT projects is mainly indebted to technical capabilities of project staff that the main problem in this way is to maintain personnel with high technical abilities and to develop their abilities.

The salary and sufficient wages:

The question is that how can you keep the IT skilled work force in your project without thinking about his salary being   increased? Certainly it is not possible, because despite lack of many skills in information technology around the world, there is always an organization that is willing to pay a skilled worker more salary. Martin Telfer believes that to expect to keep the employees forever is irrational, but we must somehow increase the tenure of the employees in the organization. Wages and salaries are always one of the important factors determining job satisfaction, especially if employees view this pay as just and fair. Employees must believe that the amount being rewarded fits with the rate of their activity[3]. In other words, effective management of rewards is a difficult and important task. Attention to this important fact is one of the main tasks of IT project managers.

Anachronism:
   Usually one of the fundamental problems of IT staff is professional or premature anachronism. Due to the very high speed of information technology and communication, if IT managers were unaware of this issue they would quickly lose their capable staff. Prematurity occurs when a person does not possess the knowledge and skills and the ability for the job. In this context, Charlotte Veko says all personnel on information technology projects who work on extensive projects in this area will find that their ability is rapidly falling behind from the rapid development of this technology and this makes the subject of on-the-job training an inevitable task[6]. IT project management efforts should be broad and they should know that looking to the future is the principles of the work. Individuals will be effective when they not only do not become abolished but do not feel falling behind or abolished either, therefore they must provide retraining opportunities and work and research activity for project personnel along with repetitive and daily efforts and to not look at it as cost but know it as a kind of investment.

Managerial and technical knowledge of IT managers:
   Sometimes one of the main reasons for dissatisfaction with the IT projects is lack of knowledge on the part of the project manager in technical field and sometimes management. IT projects often are run by technical experts and such people do not have the academic education in the field of management and sometimes one of the problems of the staff of IT projects is a lack of correct understanding of IT projects managers of the professional activities of project staff, while the success or failure of IT projects depend on accurate technical and managerial support of senior management of the organization[4].

Appropriate work environment:
   IT staff often complain in an unpleasant way and with convincing reasons about the conditions in which they must work. Busy and noisy offices which is the result of management's excessive enthusiasm to reduce costs, has negative results in encouragement and in incentives to professionals [2]. Consideration of the working space and safety and health principles at work, which in the field of information technology is not very expensive, is an undeniable necessity. Consideration of health of project staff is one of the elements of project's profit.

 IT is an efficient tool in management of projects in Information Technology:
   If we wanted the managers of IT projects play the role of human resource professionals in IT management projects, we should know that the best way to use information technology tools is in human resource management. Application of Information Technology in IT projects management makes these managers
- Have more opportunity to pay their attention to other tasks. This means by automation of the processes, they will find more opportunity for interpretation and solving problems of human resources.
- In a proper framework of software, know the identity and authority of individuals and with the help from the services they receive from the Web, do the management roles easier [6].
- Information is done accurate and fast and decisions will be based more on correct information.
- Possible participation of more personnel and accelerated multiple task completion of human resources will occur. IT project managers often are faced with a wide range of organizational, tools and methods challenges. Although a list of software cannot be presented for applying due to rapid growth of applications software but these administrators can use some proposed software tools in the area of their organization's management such as the following, to facilitate tasks [1].
•Process Edge-Focused on modelling, design, and evaluation of the processes
•OPTIMAS-Related to design and evaluation of measurement systems of the organization
•Technology Investment Advisor-Runs financial assessment of the technology strategies

•Decision Advisor-It is in relation to decision making in complex situations and conditions of uncertainty
• Top Modeller-focused on change management and determination of the best option and best suited way for the desired changes

2. Methods of Research

In research conducted in the field of information technology staff, a government agency which was actively participating in the field of information technology projects, attention was given to effective factors that influence improvements of staff performance in these projects and for this purpose taking statistics and prioritization of these factors was considered from the perspective of staff. The method of research survey was based on the questionnaire and sample size in this study was simple random sampling without placement. Using formula of sample size of Cochrane, the sample number size of 45 was chosen. To determine the validity of the questionnaire, the formal method was used and its validity was confirmed by experts and for its end, the method of calculating the coefficient alpha of Kranbakh equal to 0/86 was chosen. For data analysis, statistical methods including statistical Friedman, Pearson, Keydo and Spearman methods were used as well. The main findings indicate that the staff believed the individual factors and then factors of staff job, and ultimately organizational factors as effective in improving their performance. Sense of responsibility and commitment to the job and the level of knowledge of information technology of the person, were recognized as the most important factors to improve the performance of the staff at individual levels. Also in regard to occupational factors, attention to necessary educational and research opportunities and timely correction of organizational structure appropriate to changes in the field of information technology were of the most important factors and in the field of organization factors, attention to the salary rights and of fair and adequate compensation and attention to proper workplace, were staff's concern. The following list of some of these factors is presented in order of priority.

Table 1. Some factors affecting areas of information technology to improve performance

individual factors	job factors	organizational factors
accountability and deep sense of responsibility	necessary education and research opportunities	fair and adequate salary and compensation
IT knowledge and ability	timely improvement of organizational structure and redefining of jobs (appropriate with IT changes)	suitable environment
passion and interest for the job	adequate job knowledge and describing of the duty	awareness of the IT director of the type of specialist activities of the staff
good work ethics and attitude	highlighted role in giving services	attention to professional and general education programs
having a spirit of teamwork	having work respect and dignity with others	more attention to job security and official employment
appropriateness of the individual spirit with many changes in IT	no conflict of roles, duties and responsibilities	to create conditions for continuing education
having the spirit of knowledge and skills transfer to others	opportunities to do group work and participation in tasks	opportunities to rest and avoid work stress
passion and interest to the workplace	having a role in decision-making	more attention to the experience and knowledge of the staff in professional fields
work background and experience	lack of monotonous and repetitiveness	participation of IT staff in exhibitions and organizing work camps

2. Conclusion

IT project management is not a generally prescribed prescription and you cannot develop a comprehensive plan for all projects in this area. It can almost be said that all those participating in the management, have obtained various projects experience in this area and almost every organization has its own problems and difficulties. But we

must be careful that a series of problems is often general and it is only possible that their titles are different although the solution of the problems even in cases of the same problems with regard to the nature of different organizations, are different. The findings of this study showed that attention to human resource management in the field of information technology and its projects management is one of the most important pillars in management and negligence from it causes failure of information technology projects.

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