Surveying Enterprise Resource Planning (ERP) failure factors in governmental organizations in Middle East

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Abstract

Implementing enterprise resource planning (ERP) is an important factor for organizations to consider. However, ERP software is too expensive and the failure rate of implementation is high. This step requires some preliminaries which are mentioned in another article of the same authors. It is obvious that ERP selection is becoming increasingly more difficult as new competitors emerge. In this paper, we will look at failure factors of ERP implementation. Then we will survey the mentioned factors in the Ministry of Commerce in Iran.

Keywords: ERP- Success factors- Implementation-Organization- Information Technology

1. Introduction

Although enterprise resources planning (ERP) implementation has been one of the most significant challenges of the last decade, it comes with a surprisingly high failure rate due to its high-risk nature. The risks of ERP implementation, which involve both technical and social uncertainties, must be effectively managed (Wu, Ong et al. 2008). Companies must take risk both to launch new products and to innovate themselves. “However, risk processes do not require a strategy of risk avoidance but an early diagnosis and management” (Keizer, Halman et al. 2002). Given the high risk of failure associated with enterprise system implementation projects (Scott and Vessey 2002) (Sumner 2000) special attention to critical success factors in ERP implementation is necessary. These success factors range from technical know-how and expertise to people and organization-management skills required during a typical ERP implementation project (Holland and Light 2001; Lee, Siau et al. 2003).

Developing the technology side of an ERP to cover all organizational processes can lead to successful outcomes only if it is accompanied by the evolution of human capabilities to understand the implications and handle the consequences of the new system and business processes defined for it (Worley, Chatha et al. 2005). Enterprise system as a technology is designed to enable firms to better manage their knowledge by integration of business processes and to have better control of information and data in the organization. Ironically, to implement the technology that is aimed at improving the sharing and integrity of information and knowledge in the firms, organizations must have the capability of effective knowledge sharing to start with (Jones 2005).

A great deal of time, effort, and cost has been directed toward the implementation of enterprise resource planning (ERP) systems (Al-Mashari 2003). Research of ERP implementation has mainly focused on initial startup (Markus, Tanis et al. 2000; Holland and Light 2001; Nah, Lau et al. 2001) However, there's another important phase named post-implementation support that is not as well-known. The start-up of an ERP system is a milestone and not important as a goal but if there is an incident inaccurate idea that says it's a final goal, this may cause a failure after a successful start-up.

We mentioned ERP success factors in Meadle East in another paper of the same authors (Kazemi, iranmanesh et al. 2011).
ERP provides two major benefits that do not exist in non-integrated departmental systems: 1) a unified enterprise view of business that encompasses all functions and departments; and 2) an enterprise database where all business transactions are entered, recorded, processed, monitored, and reported (Davenport 2000; Umble, Haft et al. 2003). The acquisition of ERP software is a high-expenditure activity that consumes a significant portion of the company’s capital budget. It is also an activity that is fraught with a high level of risk and uncertainty. This highlights the obvious need for making the right choice of software with the proper evaluation method (Verville and Halingten 2000).

Many academic researchers and practitioners internationally have worked on the issue of software selection. Most of the proposed approaches are variants of the multi-criteria analysis, trying to define the final value of every available selection based on a set of criteria. Various attempts toward the formulation of the software selection problem (especially of production planning and control software) are reported by (Wortmann 1984), (Tatsiopoulos 1989; Tatsiopoulos 1990). At the same time, companies’ difficulty in adopting complicated mathematical models that require a significant amount of data, led many researchers and practitioners to design less-advanced models from a theoretical point of view, but easier and more effective from a practical one. The software selection issue has been covered by many consulting companies, but with dubious results. The selection of one of many software products for the implementation of specific business processes is the most typical of a series of problems that is called "software evaluation" (Vlahavas, Stamelos et al. 1999), (Anderson and Chen 1997). Many other problems may arise, such as the decision whether to develop a new product or acquire an existing commercial product with similar requirements. On the other hand, software evaluation may have different points of view and may concern various parts of the software itself, its production process, and its maintenance. Thus, software evaluation is not a simple technical activity, but a decision process where subjectivity and uncertainty are present without any possibility of arbitrary reduction. In recent years, research has focused on specific software characteristics, such as models and methods for the evaluation of the quality of software products and software production process (Fenton 1991), (Kitchenham 1987), (Miyoshi and Azuma 1993), (Schneidewind 1993), (Vollman 1993), (Zahedi 1990). According to (Stamelos and Tsouki s 2003) some typical decisions that are related to software evaluation, include the following:

Keep legacy system or replace it
Make software or buy
Commercial software product evaluation
Tender evaluation
Software certification
Software process evaluation
Software system design selection

The software selection issue is a complicated decision-making problem, using many and, often, contradictory criteria that should be included in the final decision. Toward the solution of similar problems, Multi-Criteria Decision Aid (MCDA) has proved very useful (Nikolaos, Sotiris et al. 2005).

Failure factors can guide us to have appropriate ERP selection and that helps to success. In other hand by considering the failure factors we would have better implementation.

2- Failure factors in governmental organizations in Middle East

According to Interviews and surveys and mining processes, sub processes and Activity cards in a number governmental organizations in Middle East such as the Ministry of commerce in Iran (due to commercial reasons the number of the above cannot be mentioned) The following factors were
identified as failure factors in ERP implementation: (It should be mentioned that some of these factors are the same with similar organizations in Europe and China and some are different)

2-1- The lack of clear and collective processes in the organizations.

2-2- The weaknesses in risk management.

2-3- High rate of changes in state and international trade laws.

2-4- Lack of experience in successful ERP implementation in governmental organizations, It should be mentioned that in the case of successful experience in this area Re-engineering processes and projects can proceed more confidently Using the experience of similar organizations that have successful implementation.

2-5- Many of Information Systems of these organizations do not have the ability to integrate and they should be replaced with new Information Systems Preparing the ground for successful implementation. Considering that many employees of these organizations tend to use current systems due to using them for a long time, they will resist against implementation of new systems.

2-6- In most organizations of this region knowledge management has not been implemented or is under implementation, so the appropriate background for the ERP implementation is not provided or at least it takes a lot of time to provide especially for large organizations.

2-7- Organizational culture is largely traditional and it is too difficult to change it with current human resources and we can say sometimes it is impossible.

2-8- Some opposition of managers with changing in processes due to inability to adapt to new processes.

2-9- In many of the cases we surveyed in Middle East one of the failure reasons was prolongation of the project.

2-10- Weakness in ERP selection process (It is very common in this region).

3- Conclusions

One of the most important factors of an ERP implementation is the region of the organizations. Different organizations of different region have different cultures, behaviours, conditions, facilities and laws and these issues will affect successful ERP implementation.

Considering these factors, we should try to eliminate the causes of failure or at least to reduce their impact.

According to Interviews, system data and surveys and mining processes, sub processes and Activity cards in the Ministry of commerce in Iran, We have consulted with consultants and experts within the organization and outside the organization. We suggest that for successful implementation and achieving results, we have to:

Change some processes of the organization and re-engineer some others, Improve risk management; make appropriate changes in Information Systems of organization, presentation of required Courses for the transition from traditional to modern Culture, use expert consultants to have appropriate ERP selection, Reduce project time by using experienced project managers and allocating adequate funding.

Due to the extent of this organization, we recommend the implementation of knowledge management and modification of the above factors. We can start from one of the key parts of the organization and if the implementation was successful then we can extend the implementation to whole organization.
The result of survey in the Ministry of Commerce was A Fuzzy AHP which is developed to select the appropriate ERP software in organizations like the Ministry of Commerce, which cannot be mentioned due to commercial reasons.

Finally, we offer to develop ERP Implementation methods for the Middle East organizations considering the mentioned failure factors.
4-References


