

Chapter 2

Critical Success Factors in Enterprise Resource Planning Implementation: A Case–Study Approach

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ABSTRACT

Although introducing Enterprise Resource Planning (ERP) to an organization has enormous benefits, it may entail new hazardous challenges if it cannot be well managed. This research focuses on the critical ERP success factors from a case study involving the Esfahan Steel Company, which started ERP implementation in September 2002. An in-depth research of ERP implementation processes and the level of adhering to five chosen ERP critical success factors—project management, top management supports, business process reengineering, and change management and Training—are conducted. Research results revealed that the five critical success factors (CSFs) are highly interdependent and the strengths and weaknesses of each have influenced the quality of ERP implementation to a large extent.

INTRODUCTION

Today's the globalization phenomena, market expansion, increased customers' expectations and competition among firms, and business complexities, forced companies to investigate more on information systems in an attempt to improve

their business practices and procedures. One of these systems which is receiving an universal attention from many companies all over the world is ERP that meets companies' requirement for more integrated and flexible business processes.

"The key underlying idea of ERP is the use of information technology to achieve the capability to plan and integrate enterprise-wide resources"

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(Kumar et al., 2003). ERP integrates the processes and applications of various functions of an organization such as design, production, purchasing, marketing, and finance (Kumar et al., 2003).

ERP implementation can both gain enormous advantages for successful companies and at the same time be a disaster for those companies which cannot manage its implementation successfully. ERP implementation projects are the most difficult development projects for organizations due to its complexity, enterprise wide scope and fundamental organizational changes needed to align with the new system and business processes (Wilder & Davis, 1998). Therefore, as emphasized by Holland and Light (1999) all managers who want to implement ERP have to ask two important questions of “How can ERP systems be implemented successfully?” and “What are the critical success factors for ERP implementation?”

This paper has three main objectives. Recognizing the critical success factors for ERP implementation by reviewing the most critical and relevant literature, examining the level of adhering to the identified success factors in the selected case study; and investigating the impacts of each critical success factor on ERP implementation and on the other factors in the selected case study.

LITERATURE REVIEW

Since ERP implementation is an expensive and risky venture, many authors have identified different factors which, to a great extent, influence successful implementation. Holland and Light (1999) created a model which classifies the CSFs into strategic and tactical factors. Strategic factors include legacy system, business vision, ERP strategy, top management support and project plans. Tactical factors were represented as client consultation, personnel, business process change and software configuration, client acceptance; and monitoring. The Holland model has been used in many other studies. For example, Allen, Kern, and

Havenhand (2002) in addition to independently identifying strategic and tactical CSFs in Holland model added, in their paper, a set of contextual CSFs for ERP implementation in public sectors

Nah, Lau, and Kuang (2001) identified 11 critical success factors for ERP implementation based on structured literature search. Later Nah, Zuckweiler, and Lau (2003) surveyed 54 CIOs of 1000 companies in which they were asked to evaluate the importance of each CSFs. Somers and Nelson's (2001) research was based on a large scale meta-study of the case study literature, from among which they identify twenty-two critical success factors. Also, they asked US executives to rank the ERP CSFs, through which they produced top ten CSFs in terms of the mean score. Somers and Nelson (2004) grouped these factors into the key player and key activities and describe that these factors are having different degree of importance in the different stages of ERP project life cycle. Key players are people or groups of people whom are affected by ERP implementation to a great extent. They defined key players as top management support, project champion, steering committee, implementation consultants, project team, vendor-customer partnership, vendors' tools, and vender support. Key activities are those activities during the implementation that have vital impact on the success of ERP implementation. Including user training and education, management of expectations, selection of appropriate package, project management, customization, data analysis and conversion, business process reengineering, architecture definition, dedicating resources, change management, establishing clear goals and objectives, education on new business processes, interdepartmental communication, and interdepartmental cooperation (Somers & Nelson, 2004).

Feeny and Willcocks (1998) maintained that in order to reach success in ERP implementation, 9 core IT capabilities are required. These are IT leadership, business systems thinking, relationship building, architecture planning, technology

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