Chapter 1
Critical Success Factors in Enterprise Resource Planning Implementations

Joseph R. Muscatello
College of Technology, Kent State University, USA

Injazz J. Chen
College of Business Administration, Cleveland State University, USA

ABSTRACT

Search for Enterprise Resource Planning (ERP) systems and one will find a plethora of information on both successful and unsuccessful systems implementations. The benefits of successful ERP implementations have been verified by numerous studies. However, the critical success factors, those that truly help lead an organization to success, are still being researched. This chapter seeks to further the study of the critical success factors of ERP implementations by using statistical analysis to further delineate the patterns of adoption of the various concepts. Through the use of a cross-sectional mail survey, the authors offer empirical evidence of critical success factors that will enable practitioners to improve their chances of ERP project success. Additionally, this study furthers the academic theory of ERP implementations that can benefit future studies.

INTRODUCTION

Enterprise resource planning (ERP) systems are implemented to eliminate disparate systems and to provide one common data source for all business (Muscatello et al., 2003; Chen, 2001; Hicks and Stecke, 1995). They also are used to replace legacy systems that are aging piecemeal solutions created by IS departments or older off-the-shelf packages that have become difficult to maintain and no longer meet the needs of the organization (Bradley, 2008). This trend does not appear to be slowing down. The ERP market is forecasted to hit $US 1 trillion by 2010 (Hunter and Lippert, 2007) and a survey by the Society for Information Management showed that ERP spending is among the top application and developments of its members (Luftman et al., 2006). Given the level of spending on ERP systems, it is imperative that studies on ERP implementation successes and failures continue so as to provide a proven path to success in the future.

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The promises of gains from ERP are unbounded. ERP systems offer tremendous opportunities to more consistently provide information to organizations in a standardized, centralized and cost efficient manner (Muscatello and Parente, 2006; Olson, et al., 2005). ERP systems improve efficiency within the four walls of an enterprise by integrating and streamlining internal processes (Nicolaou and Bhattacharya, 2006; Somers and Nelson, 2004; Davenport and Brooks, 2004; Koch 2001; Anderson, 2000; Brakely, 1999; Davenport, 1998, 2000). ERP has also been found to be effective in reducing inventory costs, improving efficiency and increasing profitability (Muscatello, 2006; Brakely, 1999; Appleton, 1997). In addition, ERP has been credited with reducing manufacturing lead times (Davenport and Brooks, 2004; Goodpasture, 1995). Other potential benefits of ERP include drastic declines in inventory, breakthrough reductions in working capital, abundant information about customer wants and needs, and the ability to view and manage the extended enterprise of suppliers, alliances, and customers as an integrated whole (Muscatello, 2006; Brakely, 1999; Appleton, 1997). In addition, ERP has been credited with reducing manufacturing lead times (Davenport and Brooks, 2004; Goodpasture, 1995). Other potential benefits of ERP include drastic declines in inventory, breakthrough reductions in working capital, abundant information about customer wants and needs, and the ability to view and manage the extended enterprise of suppliers, alliances, and customers as an integrated whole (Muscatello, 2006; Muscatello, et al., 2003). Clearly, the integrated information technology of ERP software has the potential to provide manufacturing firms with extensive new competitive capabilities, especially since the real-time information can improve the speed and precision of enterprise response. Given the widespread popularity of ERP software, and the spectacular successes achieved by a few firms, an open question remains: Why has the effective deployment of ERP systems proven to be elusive for the majority of firms? (Stratman and Roth, 2002).

Despite the promise of ERP systems, these software solutions have proven to be expensive and difficult to implement, as they often impose new logic and processes and completely change a company’s strategy and culture (Bradley, 2008; Muscatello, 2006; Pozzebon, 2000). Implementation of an ERP does not come without significant technical and managerial challenges, huge financial investments, and a great deal of organizational change. Operational problems at Dell, Hershey Foods, Whirlpool, FoxMeyer Drugs and more recently Hewlett Packard, Mobile Europe and W.L. Gore & Associates have been blamed on poor implementations of ERP solutions (Bradley, 2008). ERP also has the reputation of being notoriously over-sold and under-delivered (Millman, 2004). Cliffe (1999) even reported that 65% of executives believed that ERP could be harmful to their organizations and Failure rates can approach 50% (Muscatello and Parente, 2006).

Many researchers have attempted to identify the set of factors that are critical for ensuring success with ERP implementations. A lot of these efforts have been case study driven and have had important but not necessarily comprehensive conclusions for critical success factors of ERP implementations. Employing a large scale survey, this paper seeks to ascertain how businesses receive these concepts and, more specifically, which concepts are practiced widely and which are not. With this goal in mind, we first identify and develop pertinent constructs of ERP implementations based on a critical review of business and managerial literature in section 2. We then explain the research design including data collection in section 3. Section 4 presents the results along with implications of the study findings. In the concluding section, we highlight the limitations of the study along with guidelines for future research.

THEORETICAL ERP IMPLEMENTATION CONSTRUCTS

Key factors have been developed of ERP implementations based on a critical review of both scholarly and managerial literature. These constructs include strategic initiatives, executive commitment, human resources, project management, information technology, business process, training, project support and communications,
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