

Chapter 4.23

A Post-Implementation Case Study and Review of Enterprise Resource Planning (ERP) Implementations: An Update

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ABSTRACT

Enterprise resource planning (ERP) systems, if implemented correctly, have shown that a firm can gain strategic and tactical advantages over their competition who do not implement such systems. However, with failure rates estimated to be as high as 50% of all ERP implementations, companies can be negatively impacted by a poorly performing ERP system. The research on ERP has focused on events leading to the selection, evaluation, and implementation of the ERP system. The intent of this updated research effort is to capture new theories that can help practitioners successfully manage ERP systems by performing a post-ERP implementation examination of eight corporations and a pertinent

research review. This chapter is based on a qualitative research design involving case-study methodology. The propositions derived from the case study form a broad set of considerations that influence the success of an ERP system.

INTRODUCTION

In our continued analysis of enterprise resource planning (ERP) systems, we continue to find organizations that have had great strategic and tactical success stories using ERP. However, the research clearly shows that the implementation of ERP systems is anything but easy. Many projects suffering from cost overruns, failure to meet pre-implementation goals or outright abandonment have been documented (Grant, Harley, & Wright,

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2006; Hendricks Singhal, & Stratman, 2006; Liang & Xue, 2004; Muscatello, 2006; Olson, Chae, & Sheu, 2005; Yu, 2005; Yusef, Gunasekaran, & Althorpe, 2004). ERP systems promise to computerize an entire business with a suite of software modules covering activities in all areas of the business. Furthermore, ERP is now being promoted as a critical link for integration between all functional areas within a firm's supply chain, and has shown to be a significant contributor to a corporation's success if implemented correctly. ERP systems improve efficiency within the four walls of an enterprise by integrating and streamlining internal processes (Anderson, 2000; Davenport & Brooks, 2004; Koch 2001; Nicolaou & Bhattacharya, 2006; Somers & Nelson, 2004).

The ERP implementation efforts of many manufacturing companies have resulted in partial failure and in some cases, total abandonment. Many researchers have found that ERP implementation failure rates exceed 50% (Chen, 2001; Muscatello, 2006; Olson et al., 2005). An American Production and Inventory Control Society (APICS) Conference Board report issued in June 2001 stated that 40% of participants failed to achieve their business case after having implemented ERP for at least 12 months (Salopek, 2001). In a recent survey by Deloitte Consulting LLC, 25% of the 64 Fortune 500 companies surveyed said they suffered a drop in performance when their ERP systems went live (Muscatello, Small, & Chen, 2003). This is after believing that they had successfully installed the system. A recent study conducted by Professors Austin and Nolan of the Harvard Business School reveals that a remarkable 65% of executives believe ERP systems have at least a moderate chance of hurting their business because of implementation problems (Cliffe, 1999). Most of the research to date focuses on pre-implementation activities, and provides some answers to a successful "path forward" for firms wanting to implement an ERP system. Research shows that some firms have successfully implemented ERP systems with some excellent performance improvement (An-

derson, 2000; Gefen & Ragowski, 2005; Melnyk & Stewart, 2002; Millman, 2004; Yusef et al., 2004). However, since many ERP systems fail to meet their objectives after going live (Cliffe, 1999; Salopek, 2001; Somers & Nelson, 2004; Yusef et al., 2004), it is logical to conclude that there must be post-implementation improvements being performed by firms committed to using ERP as a successful business tool. This research seeks to uncover new information about the successful implementation and management of ERP systems by analyzing eight firms who have multiple years' experience, with varying degrees of success, with ERP systems. Table 1 provides a literature review of ERP research.

The gap that exists in current research has to do with the post-implementation ERP effects on a business. What processes, programs, duties, and so forth, changed in the post-ERP implementation? What interdisciplinary effects were observed? What are the observed ongoing effects? This research extends the theories on ERP implementation by exploring the selected case studies both pre- and post-implementation.

METHODOLOGY

Case-study research methodology has been highly recommended by many researchers as an ideal tool for improving conceptual and descriptive understanding of complex phenomena, and has been used successfully for analyzing ERP issues (Flynn, Sakakibara, Schroeder, & Bates, 1990; McCutcheon & Meredith, 1993; Meredith, 2002; Muscatello, 2006; Sarkis & Sundarraj 2003; Stuart, McCutcheon, Handfield, McLachlin, & Samson, 2002; Yin, 1994). The case study method also offers many benefits, such as the ability to directly observe causality, and combine evidence and logic to build, develop, or support theory that is not available using other research methods (Maffei & Meredith, 1995). In contrast to survey research formats, it allows for more meaningful

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