Chapter 6.4
Empirical Assessment of Factors Influencing Success of Enterprise Resource Planning Implementations

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ABSTRACT

Enterprise resource planning (ERP) implementations in multinational manufacturing companies have experienced various degrees of success. This article investigates factors influencing the success of ERP implementations in multinational manufacturing companies in the Malaysian Free Trade Zone. The results indicate that enterprise-wide communication and a project management program are key factors influencing the success of ERP implementations, while other factors such as top management support as well as teamwork and composition are not as critical to the outcome. Organizational culture is a moderator of the relationships between enterprise-wide communication, a project management program, and the success of ERP implementations.

INTRODUCTION

Enterprise resource planning (ERP) refers to a seamlessly integrated family of software packages designed to integrate various financial, human resources, supply chain, and customer information functions. This system is a natural development and progression of Material Requirements Planning (MRP/MRP II) that was popular in the 1970's. Initially conceived to increase the efficiency of materials planning, the suite of software packages eventually evolved to cover a wide scope of organizational functions, including inventory

control, finance, human resources, and manufacturing. Many companies experienced successes, but many more failed in their implementations. Some companies, such as FoxMeyer Corporation, experienced bankruptcy and resorted to suing the software company for failing to deliver the promises of the ERP system.

ERP implementation is a massive and costly affair (Davenport, 2000; Lee, Siau, & Hong, 2003; Siau, 2004). ERP implementations frequently consume a large portion of a company's time and resources (Siau & Messersmith, 2002, 2003). After more than twenty years of implementation and software development, much research has been gathered on the subject for developed nations (Bingi, Sharma, & Godla, 1999; Everdingen, Hilleegersberg, & Waarts, 2000; Kermers & van Dissel, 2000; Kumar, Maheshwari, & Kumar, 2003; Nadkarni & Nah, 2003; Scott & Vessey, 2002). However, the Southeast Asia region faced many challenges with ERP implementations (Davison, 2002; Soh, Sia, & Tay-Yap, 2000). The literature is scarce concerning ERP implementations and their success in this region (Tarafdar & Roy, 2003). The primary users of ERP systems are large multinational companies because local or regional small- to medium-sized companies have yet to fully embrace the benefits of ERP systems. In this research, we focus on investigating the factors contributing to the success of ERP implementations in multinational manufacturing companies in the Malaysian Free Trade Zone—a central zone in Southeast Asia.

LITERATURE REVIEW

ERP is a solution to fragmentation of information in large business organizations (Davenport, 1998). An ERP system typically comprises a central, state-of-the-art, comprehensive database that collects, stores, and disseminates data across all business functions and activities in an enterprise. By integrating all business functions,

economies of scale are obtained and the business gains a significant operating cost reduction, in addition to improved capabilities and information transparency. The increased business trends of globalization, mergers, and acquisitions demand that companies must have the ability to control and coordinate increasingly remote operating units. An ERP system can help to achieve this by enabling the sharing of real-time information across departments, currencies, languages, and national borders.

The dream of creating an enterprise-wide system began in the 1970's, but was then unrealized due to the technological barriers at that time. Instead, most companies created what McKenney and McFarlan (1982) termed "islands of automation", which naturally evolved as new IT applications were introduced to fill the constantly-emerging business needs. This gave rise to a plethora of different systems that were loosely interfaced. As a result, information was scattered throughout an organization, and detailed analyses of an organization's performance across its business functions were not possible. Such information was impossible to obtain unless manual record-sifting or specialized programming requirements were carried out. In time, the organizational costs to maintain these "legacy" systems began to exceed the funds available for building new systems (Lientz & Swanson, 1980).

Enterprise systems provide a backbone of information, communication, and control for a company (Buckhout, Frey, & Nemec, 1999), and embody the current best business practices for organizational processes (Esteves & Pastor, 2000). Numerous benefits include improvements in:

- Cooperation between managers and employees;
- Consolidation of finance, marketing and sales, human resource, and manufacturing applications;
- Management information available—real-time information available anywhere, anytime;

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