Chapter VII
Enterprise Resource Planning System Risks and Rewards

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ABSTRACT

Enterprise Resource Planning systems have proven difficult and costly to implement. Organizations must consider the risks and rewards of embarking on complex and time consuming implementation projects. This chapter explores why firms adopt ERP systems, identifies the benefits firms seek, discusses the various risks firms face as they adopt these systems, and suggests ways firms can manage these risks.

INTRODUCTION

As global business markets become increasingly competitive, firms look to technology to manage and improve their performance. Timely and accurate information is a key to gaining performance efficiency. Many firms have implemented Enterprise Resource Planning systems ("ERP") to meet these objectives. ERP systems are complex, off-the-shelf software packages that claim to meet the information needs of organizations. These systems replace hard to maintain solutions created by IS departments or older off-the-shelf packages that often provided only piecemeal solutions to an organization's information needs. ERP systems evolved in the early 1990s from material requirements planning systems ("MRP") and manufacturing resources planning systems ("MRP II"). MRP dealt with material planning and control. MRP II dealt with scheduling and planning a firm's manufacturing resources. ERP systems serve the entire enterprise, not just manufacturing and inventory control as with its predecessors. ERP integrates information for the

entire organization in a single database. But ERP implementations are often complex and experience serious problems (Liang et al., 2007; Xue et al., 2005). Failures, abandoned projects and general dissatisfaction have been well publicized in the business press. ERP systems are "expensive and difficult to implement, often imposing their own logic on a company's strategy and existing culture (Pozzebon, 2000, p. 1015)." Muscatello and Parente (2006) cite ERP failure rates to be as high as 50%.

BACKGROUND

Three characteristics distinguish ERP implementations from other IT projects (Somers, Ragowsky, Nelson, & Stern, 2001).

- ERP systems are "profoundly complex pieces of software, and installing them requires large investments of money, time and expertise (Davenport, 1998, p. 122)."
- Software packages may require changes in business processes and procedure, may induce customization, and leave the implementing firm dependent on a vendor for support and updates (Lucas, Walton, & Ginsberg, 1988).
- The adopting firm is usually required to reengineer its business processes. As a result, the project must be managed as a broad program of organizational change rather than a software implementation (Markus & Tanis, 2000; Somers et al., 2001).

Despite these risks, global firms were spending $10 billion on ERP software and another $10 billion on consultants to implement the systems in the late 1990s (Davenport, 1998). An AMR study expected firms to spend $47 billion on ERP packages in 2001(Cotteleer, 2002). Large sums are still being spent on ERP implementation projects. A Forrester survey found that ERP and enterprise applications remained "the top IT spending priority for 2005 (Hamerman & Wang, 2006)." A summer 2005 survey of members of the Society for Information Management (SIM) showed that ERP is among the top six application concerns of its members (Luftman et al., 2006). Hunter and Lippert (2007) forecast the ERP market to reach $US 1 trillion by 2010.

This article discusses the benefits firms expect to realize by adopting ERP systems, why some firms do not adopt these systems, risks associated with ERP implementation, some well publicized ERP failures, risk management tools and future trends in ERP implementation.

BENEFITS; WHY DO FIRMS ADOPT ERP?

Firms adopt ERP systems for both technical and business reasons. Technical reasons include: reducing systems operating costs, solving specific problems, such as Y2K, accommodating increased system capacity, and solving maintenance problems with legacy systems. Business reasons may include: presenting a single face to the customer, quoting realistic delivery times, accommodating business growth, improvement of business processes, standardization of data, reduction of inventory carrying costs, and elimination of delays in filling orders (Markus & Tanis, 2000).

The rapid growth of the commercial market for ERP is attributed to the following factors (Watson & Schneider, 1999):

- Use of the popular client/server platform,
- Can be used as an enabler for reengineering projects,
- Y2K compliant,
- Marketed to CEO's and CFO's as "strategic solutions" rather than as transaction processing software, and
- A way to outsource a significant part of the IS function.

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