Chapter 4.24
Enterprise Resource Systems Software Implementation

Ganesh Vaidyanathan
Indiana University, USA

ABSTRACT

Enterprise resource planning systems are complex yet single, integrated software programs that runs off a single database so that the various departments can easily share information and communicate with each other. The integrated approach can have a tremendous payback if companies implement the software correctly. This chapter illustrates the implementation steps as followed by major corporations in the United States, and provide an insight into the practical implementation issues. A business case for such systems is introduced in this chapter as well. The chapter provides seven ERP issues and elaborates these issues in the context of implementation. The implementation details during conceptualization, design, implementation, go-live, and operation stages are provided with a note to practitioners on ERP implementation.

INTRODUCTION

Enterprise resource planning (ERP) software attempts to integrate all departments and functions across a company onto a single computer system that can serve all those different departments' particular needs (Koch 2002). Each of those departments typically has its own computer system optimized for the particular way that the department does its work. But ERP combines them all together into a single, integrated software program that runs off a single database so that the various departments can more easily share information and communicate with each other. That integrated approach can have a tremendous payback if companies install the software correctly.

Typically, when a customer places an order, that order begins a mostly paper-based journey from in-basket to in-basket around the company, often being keyed and re-keyed into different departments' computer systems along the way. These activities cause delays and errors. Meanwhile, no

one in the company truly knows what the status of the order is at any given point because there is no way for the finance department, for example, to get into the warehouse's computer system to see whether the item has been shipped. ERP can replace the old standalone computer systems in accounting, human resources, manufacturing, and warehouse with single unified software. This results in integrated software that is linked together so that someone in finance can look into the warehouse module to see if an order has been shipped. Most vendors' ERP software is flexible enough to install certain modules without buying the whole package.

Enterprise systems that encompass all departmental processes can often be complex and interdependent. Highly interdependent technology solutions such as ERP are used by firms to enhance the efficiency and ease of in-house capabilities. The use of ERP is characterized by high levels of task interdependence (Sharma and Yetton 2003). To implement such highly complex and interdependent systems is often a daunting process. Implementing an enterprise-wide application like an ERP system to help run a business is a costly and complex process and is like implementing a civil engineering endeavor or sizable construction project (Hawksworth 2007). A certain amount of planning, discipline and wisdom are required to complete implementation on schedule to meet the requirements of a firm.

Many of the current ERP literature share implementation experiences from various companies. While some of them attempt to explain why the ERP implementation is difficult and what needs to be done to achieve desirable results, others present various models of implementation stages and different implementation methodologies (Moon, 2007). The contributions of this chapter to researchers and practitioners include:

a. Illustration of the implementation steps as followed by major corporations in the United States, and

b. Provision of an insight into the practical implementation issues, and

c. Introduction to a business case for ERP systems.

This chapter details the implementation issues of ERP systems and provides an insight into the practical aspects of such implementation. The next section provides seven ERP issues and elaborates these issues in the context of implementation. The following section describes ERP software and the ERP implementation scheme during conceptualization, design, implementation, go-live, and operation stages of implementation. The chapter concludes with a note to practitioners on ERP implementation.

WHAT CAN ERP DO?

ERP is an enterprise software package. With ERP, it is possible to keep track any transaction in an enterprise in real-time. ERP allows managers to process business information more effectively to support sound decision making. ERP solutions cover all of the core operations necessary to run successful small and midsize businesses, including accounting and banking, customer and vendor management, purchasing and sales, logistics and production, as well as reporting and analysis.

The benefits of ERP systems have been researched extensively in literature. Gefen and Ragowsky (2007) examined associations between the business characteristics of manufacturing firms and their perceived benefits from ERP system investments at both enterprise and a specific IT module level and found that the perceived value for ERP investments was consistently better explained at the specific IT module level. Ranganathan and Brown (2006) found that ERP projects with greater functional scope (two or more value-chain modules) or greater physical scope (multiple sites) result in positive, higher shareholder returns. ERP systems replace com-

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