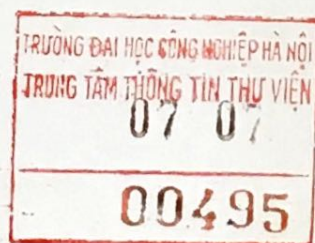


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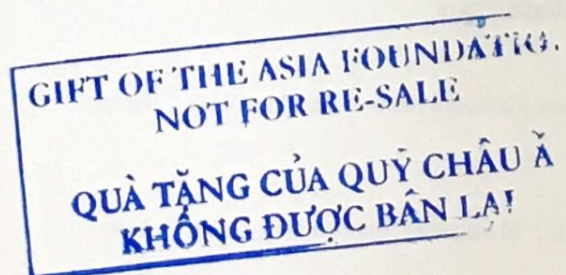
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MANAGERIAL
ISSUES OF
ENTERPRISE
RESOURCE
PLANNING
SYSTEMS

Managerial Issues of Enterprise Resource Planning Systems



David L. Olson
University of Nebraska



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Preface

Enterprise resource planning (ERP) systems have played a major role in changing organizational computing for the better. ERP systems can be developed internally, but because of the difficulty of doing this, the majority of organizations adopt vendor products. Vendors offer their products in many modules, each of which can be used alone or in combination to meet the organization's design decisions. Vendors also provide customized systems for specific industries or organizational sectors. ERP systems can cost organizations millions of dollars, and some smaller firms have spent more than 10 percent of revenues to adopt an ERP.¹ Adopters expect significant economic returns through lower information system costs and through more responsive operating efficiencies. These systems are intended to last anywhere from 3 to 10 years, with some users hoping for longer product lives, given the scale of investment required. This is countered by vendors developing improvements and often dropping maintenance support for older systems to enhance adoption of the new versions.

Two recent studies examined the motivations for ERP adoption. Mabert et al. surveyed over 400 Midwestern U.S. manufacturing organizations about ERP adoption. Olhager and Selldin replicated that study with 190 manufacturing firms in Sweden.² Table 1 lists the results of these studies reporting the motivation for implementing an ERP.

Initially, fear of Y2K was a major concern. The Swedish survey was later than the United States one, and that might explain the lower rating for this item in the Swedish study. The U.S. response was actually neutral (only slightly higher than 3), but Y2K clearly was a factor in ERP adoption in the mid- to late-1990s. However, more important reasons were always present. In both studies, replacing legacy systems received a high positive response. The desire to simplify and standardize systems was the second highest reason in both studies.

Two other reasons received relatively high ratings in the United States (a bit lower in Sweden). These were to improve interactions with suppliers and customers, which is one way to gain strategic advantage. The supply-chain aspects of ERP have led vendors to modify their products to be more open, although work continues to be needed in this direction (and seems to be proceeding). Linking to global activities was slightly positive in the U.S. survey, and less important in the Swedish study.

Three potential reasons received low ratings in both studies. Pressure to keep up with competitors received neutral support in the U.S. study. Ease of upgrading systems is a technical reason that received neutral support both in the United States and in Sweden. Restructuring the organization was rated lower.

From these studies, we infer that ERP systems are an important means to upgrade the quality of information systems. They can provide organizations with coordinated systems

¹V.M. Mabert, A. Soni, and M. A. Venkataramanan, "Enterprise Resource Planning Survey of U.S. Manufacturing Firms," *Production and Inventory Management Journal* 41, no. 20 (2000), pp. 52-58.

²Ibid., and J. Olhager and E. Selldin, "Enterprise Resource Planning Survey of Swedish Manufacturing Firms," *European Journal of Operational Research* 146 (2003), pp. 365-73.

TABLE 1 Reasons for Implementing ERP—Rating 1 (Not Important) to 5 (Very Important)

Reason	United States	Sweden
Replace legacy systems	4.06	4.11
Simplify and standardize systems	3.85	3.67
Improve interactions with suppliers & customers	3.55	3.16
Gain strategic advantage	3.46	3.18
Link to global activities	3.17	2.85
Solve the Y2K problem	3.08	2.48
Pressure to keep up with competitors	2.99	2.48
Ease of upgrading systems	2.91	2.96
Restructure organization	2.58	2.70

Source: Extracted from V.M. Mabert et al. "Enterprise Resource Planning Survey of U.S. Manufacturing Firms." *Production and Inventory Management Journal* 41, no. 20 (2000); and J. Olhager and E. Selldin, "Enterprise Resource Planning Survey of Swedish Manufacturing Firms." *European Journal of Operational Research* 146 (2003).

TABLE 2
ERP Issues by
Chapter

Chapter	Issues
1	Implementation failures
2	Total system vs. modular implementation
3	Customization
4	Cost budgeting in ERP
5	Intangible and hidden factors
6	The value of reengineering
7	Clean slate vs. technology enabled
8	Vendor best practices vs. firm competitive advantage
9	ERP risk
10	Installation options and comparative advantages
11	External sources of ERP
12	ERP installation project management
13	ERP critical success factors
14	Implementation options
15	Expectation management
16	ERP maintenance
17	ERP system migration
18	Data warehouses and ERP
19	Data mining potential in ERP
20	Supply-chain aspects of ERP
21	Advanced planning systems
22	ERP openness
23	Middleware
24	Security

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