

Chapter 1

ERP Adoption: Is it Worth the Investment?

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ABSTRACT

Enterprise Resource Planning (ERP) has been a major investment for most companies since the early nineties. ERP is a type of investment that has an integrated approach, and has been widely adopted, but there is little empirical evidence about how ERP implementation affects company performance. This chapter begins with the discussion of ERP investment and its role as a commodity or as a strategic investment. Then follows a discussion of an industry in which companies have invested enormous amounts of money on ERP. Finally, in spite of the growing dominance of ERP systems, there is still little empirical evidence on the type of benefits that companies get from an ERP implementation. Therefore, it is important to understand the effects of ERP in cross-functional systems.

INTRODUCTION

The decision to implement an ERP system is treated as a strategic decision because ERP implementation involves comprehensive redesign of business processes and information technology infrastructure within the company (Grabski, Leech, and Schmidt, 2011). In the late 1980s, companies started to change their way of operating with the introduction of Material Requirements Planning Systems. In addition to that, the busi-

ness environment started to evolve and companies faced outdated, complex software programs that made it difficult to assimilate and synchronize the fragmented activities that existed in the different departments of the company. This business environment forced companies to look for an alternative software system that could collect data, synchronize processes, and generate information more effectively and in real time.

Companies started to implement ERP systems in the early 1990s. Some of them were trying to replace their legacy systems, and some other ones decided to implement a new ERP system because

DOI: 10.4018/978-1-4666-4153-2.ch001

their systems were still using a two-digit year that will generate a problem after December 31, 1999. In many cases, patching an old legacy system was a long ordeal and implied a bigger investment than getting a new ERP system. The widespread use of ERP systems will require that schools teach business process integration in order that students learn and understand to take decisions in an integrated environment. There are several Universities that are already using SAP as part of the SAP University Alliance, but there are also open source alternatives with no annual fee such as Open Bravo that can be used as an alternative (Huynh and Chu, 2011). Some Universities have already started to use open source ERP packages as a cheaper alternative to SAP offered through the SAP University Alliance. Wilson and Lindoo (2011) describe the successes and failures of SAP in online education, and the implementation of SAP in one university and the lessons that they learned during the implementation of SAP.

IS ERP A COMMODITY?

ERP is a type of information technology (IT). So, understanding this type of information technology and its effects on business performance is essential to evaluate investments on ERP and the short term and long term implications. Carr (2003) argued that IT is essential for the survival of a business but that its ability to provide strategic advantage has diminished to the point at which IT is a commodity. Proponents of this view of IT as a commodity believe that ERP-driven improvements in company performance relative to competitor performance are short-lived and small.

In contrast, Clemons and Row (1991) suggested that benefits resulting from an innovative application of IT can be more readily defended if the system utilizes unique resources of the innovating company so that competitors cannot fully benefit from imitation.

ACCELERATED IMPLEMENTATION VS. TRADITIONAL IMPLEMENTATION

It is well-known that as implementation of ERP begins, managers anticipate the organizational changes necessary to successfully implement and use the ERP, and they begin making these changes. Thus, some types of organizational benefits of the implementation surface early. It is necessary to understand the different types of organizational benefits to know which organizational benefits might surface during ERP implementation and which are likely to surface later. Further, some types of benefits, such as low cost of operations, are largely internal to the organization, i.e., do not depend on the actions of competing organizations. Other types of benefits, such as profitability, depend on the actions of competing organizations. For example, is the competitor also installing a superior enterprise system so that profits, if any, that the enterprise system bestows have to be shared? Such a view of organizational benefits from ERP first implies that the implementation of an ERP by one organization must not be viewed in isolation, but the implementation of similar ERP by other companies must be considered as well. It also implies that the typology of organizational benefits must be coherent in an accounting sense so that the true pattern of rise, fall and trade-off between benefits are visible in the analysis.

Technology changes faster than ever (Smith and Reinertsen, 1992), and if a company takes too much time to introduce a new product, competitors may observe this situation and introduce the new product earlier than the first company. Therefore, the more time the company takes to introduce the new product, the higher the expected return of competitors' reactions may be (Payne, Bettman, and Luce, 1996). Companies that make faster decisions can take advantage of opportunities, such as the implementation of new technological capabilities in order to be one step ahead of the

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