Chapter 7

ERP Selection:
Effect of Product and Organizational Constructs

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ABSTRACT

Previous studies have shown that Enterprise Resource Planning (ERP) systems have significantly impacted positively on the productivity of the organization. However, there exists a cost-failure paradox. ERP systems are very expensive and constitute a huge budgetary component, yet the failure rate of ERPs is very high. The selection process of ERPs is a critical success factor. This study focuses on the product and organizational constructs that affect the selection of ERP systems. The authors utilized an extension of technology acceptance model (TAM) by elements of the information systems (IS) success model. The study evaluated the impact of system quality, information quality, service quality, and support quality as key determinants of cognitive response, which influences ERP system purchase/use. Industry, firm size, buying center, and product experience were introduced as organizational constructs. The results of the study indicate that system quality, information quality and software support are significant product qualities that affect an organization’s decision to adopt an ERP product. Among the organizational constructs, only firm size was found to be statistically significant. The results also indicate that multi department committees and the IT department are the major buying centers responsible for vendor selection. In terms of information source, vendor reference and adverts are major information sources, while government standards and popularity/experience of vendors are important considerations in vendor selection.

INTRODUCTION

Competition, globalization, and digitization have compelled organizations to resort to information systems as a major driver of other business processes (O’Brien and Marakas 2007). Enterprise Resource Planning (ERP) systems have become major tools in organizational efficiency and strategic advantage through the synergistic integration of fragments of data in hundreds of previously disparate systems.
that degraded organizational efficiency and business performance (Laudon and Laudon 2007). Global expenditure on information and communications technology (ICT) infrastructure grows tremendously, with growth in software investment averaging from 30% to 40% per year (Eckhouse 1999). ERP acquisition is a high expenditure activity that consumes a substantial portion of an organization’s capital budget (Verville et al. 2005) and shakes the structural and cultural foundations of the organization. It is therefore not surprising that organizations take some time to think and plan the adoption of ERP.

Most organizations have had a successful ERP implementation, but a sizable number of organizations have failed to derive benefits from ERP (O’Brien and Marakas 2007). The costs and risks of failure in implementing a new ERP are huge. The paradox that in spite of the high failure rates of ERP systems they are still being soled and are becoming more expensive, proves that ERPs are very vital to organizations and their selection, a key managerial decision (Kerimoglu et al. 2008). A number of researchers have focused on implementation and post implementation issues, while the acquisition process is for the most part being ignored (Verville and Halingten 2003). Most of the failures in ERP implementation result from poor selection process that ignores contextual organizational factors. Since an ERP system imposes its own logic on a company’s strategy, organization and culture, it is imperative that ERP selection be made with care in order to avoid failure, which could result from technology-business needs/process mismatch (Umble et al. 2003). For researchers, the challenge would then be to ascertain the correlation between the acquisition process and the implementation process, the results of which could be beneficial to practitioners (Estevez and Pastor 2001).

It is important that developers of ERP systems align their development strategies to the needs, business processes and purchasing behavior of their clients. This is an uphill goal especially for off-the-shelf ERPs. However, a basic understanding of the factors influencing the organization’s choice of ERP systems is extremely vital. In most cases, these factors vary across organizations. Issues such as size of the organization, available capital budget, business processes, international outlook, and data enrichment needs are of importance (Bernroider and Koch 2001, Verville et al. 2005, Adelman et al. 2005).

This study aims at examining critical ERP selection factors and processes in a developing country (Botswana) that has a high level of information technology (IT) utilization (Toure 2007) using a triangulation of the technology acceptance model (TAM), Information systems (IS) success model, and elements of organizational buying behavior. It would provide insight to ERP developers on issues to be addressed when tailoring ERP systems to the needs of organizations and attempt to contribute towards filling the literature gap that exists in ERP research in developing countries. Most of the studies on ERP selection have been carried out in the developed world (E.g. Verville and Halingten 2002, Kostopoulos et al. 2004, Amoako-Gyampah and Salam 2004, Buonanno et al. 2005). Section 2.0 examines some existing literature in ERP selection, while in Section 3.0, a research framework is presented. The materials and methods employed in the study are presented in Section 4.0, while the results are presented in Sections 5.0. In Section 6.0 the results are discussed and some conclusions are drawn.

REVIEW OF RELATED LITERATURE

The acquisition of ERP is a complex, involving, and intensive activity, which could take months and a number of personnel in planning and deciding on critical concomitants that should go into the decision matrix. In [Verville and Halingten 2003], a six step process of ERP selection is presented (Figure 1). The MERPAP consists of planning, which is a continuous exercise throughout the
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