

Chapter 30

The Evaluation of Business Performance in ERP Environments

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ABSTRACT

ERP systems, supporting and integrating all business processes across functions and offering real time information necessary for taking actions and making decisions, have prevailed in most enterprises world-wide. The costs involved in ERP implementations may be huge and must be justified by the outcomes. However, extant research has reported mixed and in some cases controversial results. In this chapter, certain important dimensions of ERP systems and of business performance are discussed. The chapter has an educational focus and aims at providing an exploration of ERP system's impact on certain business performance dimensions, informing thus scholars, practitioners and students of the issues involved and the areas they should pay attention when considering ERP implementations. Following an extensive literature review, a classification of diverse studies according to their research focus is provided, which reveals the range of business performance dimensions and can help researchers in their future projects.

INTRODUCTION

This chapter explores the impact of ERP systems on business performance as reported in literature. Considering the significant investment needed and the total cost occurring in ERP implementations, the impact of ERP systems on business performance is an important subject, especially as many studies in the past have reported mixed results or reached to vague conclusions. For example, according to Beard

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& Sumner (2004), the use of an ERP system does not reduce business costs more than if the system had not been implemented. Bendoly et al. (2009) argued that the correct use of information in conjunction with operational excellence and customer intimacy can lead to an increase in strategic performance, causing business profitability. Hunton et al (2003) reported the improvement of financial indices such as return on assets (ROA) and return on investment (ROI), which were significantly better over a 3-year period for the ERP adopting firms as compared to non-adopters. However, they also found that there is no difference in the improvement of financial performance between pre and post-adoption of the ERP system, a finding consistent with Poston and Grabski (2001). On the other hand, Sudzina et al. (2011) reports positive impact on the financial performance of the adopting organization. The inconsistency of the findings regarding ERP investment's impact on firm performance confirms the complexity and elusiveness of the subject (Stefanou, 2001).

According to Nazemi et al. (2012) many enterprises, which adopt ERPs, do not manage to achieve improved operational performance and added strategic value. This is attributed to the fact that they do not fully understand ERP systems and their lifecycle. It has been also argued (Stefanou et al, 2014) that in the literature certain important dimensions of ERP systems have not been considered extensively and exclusively considered as having an impact on firm performance. ERP systems are distinct from legacy systems in various aspects and it is plausible that certain characteristics of ERP software, e.g. the extent of integration of business processes mapped into the ERP systems, may have an impact on some dimensions of what is called in general business performance but not on others. Therefore, in this chapter we report the findings and provide a classification of ERP related studies according to their research focus as far as the dimensions of business performance are concerned. The chapter is organized as follows: Next section provides the background of the discussion. The following section presents a literature review on ERP systems impact on business performance. Finally, conclusions and suggestions for future research are presented.

BACKGROUND

ERP systems are now the prevailing business information systems platform in most enterprises worldwide. However, and despite the fact that ERP research has been conducted extensively during the last twenty years, a number of ERP systems failures has been reported in the last years. These failures have a negative or even a severe consequence on the adopting organizations. But what is the outcome in situations where there is no obvious failure of the ERP system? Does it provide the solid informational foundation needed for a sustainable competitive advantage and excellence in business performance? The delivery of benefits following an ERP system implementation is not straightforward. This is a well-known fact in IS research, described by the general term "IT productivity paradox". It has been argued that data and methodological problems are to be blamed as the source for the contradictory results (Brynjolfsson, 2003). Other managerial and organizational factors related to IT/IS seem to play a crucial role for achieving company's goals. It has been argued for, example, that human factors have a decisive role in explaining why and how enactments of information technologies change over time (Boudreau and Robey, 2005).

Business performance is a general term and takes a variety of forms and content according to the context it is referred to. Most studies view company performance broadly, as having both a financial and a non-financial dimension. In addition, many studies have attempted to assess the relationship between ERPs and the performance of a firm from different perspectives and based on different research

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