Understanding the Link Between Initial ERP Systems and ERP-Enabled Adoption

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ABSTRACT

ERP systems have been identified as platform technologies that permit the adoption of subsequent technologies that leverage the information integration created by an ERP system. Although significant research attention has been directed at ERP system adoption, very little attention has been paid to understanding ERP-enabled adoption, that is, adoptions that occur and are facilitated after the initial ERP system. This paper seeks to fill this void. Synthesizing existing works, the authors construct a model that examines the link between initial ERP system and ERP-enabled adoption. The results indicate that initial ERP system factors (Extent of ERP Implementation and Current System Performance) act as antecedences to organizational ease of use and relative advantage of subsequent technologies. Moreover, the authors’ findings implicate that organizational ease of use and relative advantage of subsequent technologies have a positive impact on ERP-enabled adoption. These results have important implications for ERP system evaluation and justification. First, the findings highlight the importance of recognizing the potential additions and inherent benefits created by an initial ERP system. Second, the findings also underscore the importance of considering ERP-enabled adoption of subsequent technologies.

Keywords: Enterprise Resource Planning (ERP) Systems, ERP-Enabled Adoption, Link, System Factors, Technology Adoption

1. INTRODUCTION

Within the last decade, the pace of ERP systems adoption has been rapid as businesses strive to streamline business processes and integrate hitherto disparate applications across functional areas of businesses into an integrated information system platform. The importance of ERP systems in modern business operation has been undeniable. In an era where integration of activities in the value chain is viewed as a solution to operational inefficiencies, ERP systems have emerged and embraced by firms as systems capable of solving organizations information processing needs. Stewart...
et al. (2000) found that more than 60 percent of Fortune 500 companies had adopted ERP systems while a more recent study found that about 80 percent of Fortune 500 companies have deployed ERP systems (Kwahk & Lee 2008; Morris & Venkatesh, 2010).

Similarly, in today’s competitive and aggressive corporate environment, firms are increasingly under pressure to maximize organizational resources. One area that has come under scrutiny is firms’ ability to maximize the values and benefits embedded in their existing technology infrastructure such as an ERP system. In fact, firm management ability to recognize these potential benefits created through ERP-enabled adoption is critical to the quest for process efficiency and decision making. Although prior literature have examined the adoption and decision making process of ERP systems, such studies have used rather dichotomous approach to adoption and decision making inquiry. For instance, Hunton et al. (2001) compared ERP adopters and non-adopters and found that adopters experienced improved corporate performance compared to non-adopters, while Buonanno et al. (2005) focused on identifying factors that lead adopters to implement ERP systems and factors that influence non-adopters’ decision not to implement ERP systems. Similarly, Lorca and Ardes (2011) examined early adopters and later adopters in an attempt to understand firm performance. The approach of such studies implicitly assumed that ERP adoption is a comprehensive “big bang” type adoption or that the adoption process ends with the ERP deployment. In other words, prior studies have adopted a rather static view, thus limiting its adequacy in explaining the adoption process that goes beyond the initial adoption decision. As a consequence, the adoption of ERP systems has been examined at a very macro level of analysis where firms are expected to implement a generic ERP system and research on ERP-enabled adoption has been largely ignored.

Hence, this study intends to bridge the gap found within the existing ERP adoption literature by examining ERP-enabled adoption. This paper adds to the theoretical development and further the existing literature by using the initial ERP system as a lens to examine ERP-enabled adoption. Moreover, this study also examines the factors that influence ERP-enabled adoptions. Given that an ERP system provides an integrated platform in a firm, this research studies how initial ERP system factors influence the perceived relative advantage as well as organizational ease of use of subsequent technologies being adopted.

The remainder of this paper proceeds as follows: First, we offer a review of relevant literature of ERP-enabled adoption and influencing factors. Next, we present our research model on ERP-enabled adoption and influencing factors, and then describe our research method. Finally, we outline the results of our empirical investigation and offer a discussion of implications, limitations and future research.

2. ERP-ENABLED ADOPTION

Technology enabled adoption allows firms to make strategic and positioning investment that supports and enhances initial adopted technologies (Fichman, 2004; Karimi et al., 2007; Karimi et al., 2009). In this paper, we define ERP-enabled adoption as adoptions that occur after the initial deployment of an ERP system which allows for the integration of subsequent technologies. These technologies include modules such as customer relationship management (CRM), supply chain planning, sales form automation and integrated e-commerce (McKie, 2001). ERP-enabled adoption attempts to leverage on the information superiority of an ERP system with additional software applications. Such adoption may include external systems that can extend functionalities such as connecting a website to an ERP system as well as improving visibility of information across a firm’s value chain.

The importance of ERP-enabled adoption lies in the fact that features in applications are rapidly evolving and for firms to remain competitive, they need to keep pace with technological leaps and innovations (Fichman, 2004; Liu et al., 2012). Firms that ignore...
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