Industry Variables Affecting ERP Success and Status

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ABSTRACT

This manuscript analyzes the views of top financial executives on the information systems (IS) in their organizations and to study the level of enterprise resource planning implementation success and well as current status of activity in ERP systems. Specifically, ERP success and status were studied in 2010 as well as the effect of company size, level of ownership, and industry. An analysis of secondary data obtained from the 2006 and 2010 Financial Executives International comprehensive survey-based research on technology issues for financial executives. The results of this study are further explored deeper in the article.

Keywords: Company Size, Enterprise Resource Planning (ERP), ERP Systems Success, Industry Variables, Information Systems, Information Technology Issues, Organization Size

INTRODUCTION

One of the major software implementations in business organizations in the past decade has been enterprise resource planning systems. Enterprise resource planning systems are large complex systems that run many if not all of business functions and processes in an organization. Ifindeo (2007) suggests that “today, organizations worldwide adopt Enterprise Resource Planning Systems (ERP) under the pressure of changing business environments rather than build their own information systems (IS) in house.” According to Miller (2003), the key parts of an enterprise resource planning system are integrated modules that allow business process that cross business functional areas; one large real-time database that allows for a single entry and repository for information across business functions; and seamless business transactions across business functions. The comprehensive nature of ERP systems allows them to minimize redundancy, provides best practices for functions and processes and allows for standardized interchange of information across geographical, organizational, and cultural boundaries. The savings were first recognized by large multi-nationals and large organizations were the first to implement these integrated systems and reap the potential savings. But now small and medium sized businesses are implementing as well. Generally, enterprise resource planning systems consist of a series of functional modules that are integrated through standard business processes and include all the data and information about vendors, customers, partners, employees, raw materials, processes and products. The common modules include accounting, sales and marketing, supply chain, purchasing, manufacturing,
human resources, and inventory. McAdam and Galloway (2005) note that ERP systems allow “standardising business processes, ensuring integrity of data, and removing the number, complexity, and expense surrounding old independent legacy systems.” McAdam and Galloway (2005) suggest that ERP systems can play an “increasingly important role in sustaining ‘leading edge’ competitiveness. The size of the ERP market is estimated at $12 billion (Arc Advisory Group, 2003) to $30 billion (King, 2005) sales and a market penetration estimated at 70% of the Fortune 1000 (Bingi, Sharma, & Godla, 1999). Lech (2011) notes the expectations of implementation including operational efficiency and providing managers with more accurate information in order to successfully run their businesses.

LITERATURE REVIEW

Unfortunately, however, the track record of implementing these complex systems has been problematic. Barker and Frolick (2003) found that 50% of ERP implementations are failures. Hong and Kim (2002) estimate a 75% “unsuccessful” rate. And Scott and Vessey (2002) and Martin (1998) estimate failure as high as 90%. Dorobat and Nastase (2010) note that the “overwhelming majority” of ERP implementations fail to meet their time and cost project management goals, suggesting a poor rate of success. Kien, Soh, and Tay-Yap (2000) propose that there are “misfits” in ERP implementation. Nour and Mouakket (2011) also note the high failure rates. Some demographic variables may lead to lower levels of success.

The study of the variables affecting ERP success has been extensive but much research has focused on organizational factors such as support, training, and culture. For example, Noudoostbeni, Ismail, Jenatabadi, and Yasin (2010) noted ten critical success factors but all were internal project management variables such as top management support, clear goals and objectives, and communication. There was no consideration of demographic company variables. Hunton, McEwen, and Weir (2002) noted the “paucity of empirical research examining the impact of ERP system implementations on firm performance.” A review of the actual financial performance of firms that invested in ERP implementations was also studied by another group of researchers who looked at actual financial data. Hitt, Wu, and Zhou (2002) found that “firms that invest in ERP tend to show a higher performance across a wide variety of financial metrics.” Rajendran and Elangovan (2012) extensively examined the role of external pressures on ERP adoption and success. Wenrich and Ahmad (2009) studied a decade of ERP experience and found that ERP success can coincide with ERP upgrades for specific business expansion or improvements.

Another major issue is where organizations are with regard to implementations, upgrade, or expansion. Though not as extensively studied as success, the status of ERP installations and upgrade has been researched by Burns, Jung, and Hoffman (2009). and Kim, Lee, and Gosain (2005). Nah and Delgado (2006) examined Critical success factors for enterprise resource planning implementation and upgrade and Ng and Gable (2010). Examined Maintaining ERP packaged software. In addition, Kim, Lee, and Gosain (2005). Reviewed Impediments to successful ERP implementation process including upgrades. There have been many other studies exploring ERP success including Peslak (2006) and Ifindeo (2007).

This study of top financial executives examines their views on their organizations’ ERP systems implementation. A survey developed and distributed by Financial Executives International explores top financial executive views on the relative success of their ERP implementation as well as the current status of ERP implementations or upgrades. It also explores various influences that affect how this implementation is viewed. Chi Square analysis and other statistical methods are used to explore the relationship between these variables and perceived ERP success. The results and implications of these analyses are discussed. Our study reviews ERP success from another
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