An Analysis of Factors Affecting User Acceptance of ERP Systems in the United States

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ABSTRACT

Enterprise Resource Planning (ERP) systems are widely used in most industries today because of the benefits they offer: improved integration of business processes, improved cost control, improved decision making, improved customer service, and improved profitability. Although much IS research has been published concerning acceptance of enterprise systems, adoption issues, or critical success factors in implementing an ERP system, little research has been presented that focuses on the ERP usage behavior. The purpose of this research is to extend the unified theory of acceptance and use of technology model in order to predict the acceptance of ERP systems among its users in the United States. This study will potentially benefit Information Technology (IT) professionals in a global environment. IT professionals can design acceptance strategies that promote ERP usage ultimately.

Keywords: Enterprise Resource Planning (ERP), IT Professionals, SAP, Unified Theory of Acceptance and Use of Technology (UTAUT) Model, User Acceptance

INTRODUCTION

Enterprise Resource Planning systems (ERP) are comprehensive software programs that integrate all of a firm’s business processes and its data (Galinee, 2010; Jahn & Nielsen, 2011). Businesses implement ERP systems in order to better manage their resources (inventory, human resources, sales, marketing, accounting, etc.), reduce costs, improve productivity and transparency, improve decision making ability, and to provide better customer service (Davenport, 2000; Forcht et al., 2007; Ifinedo, 2007). For most firms, ERP software is the heart of their operations and the backbone of the organization.

Although ERP systems have been used in business for the last few decades, their popularity began to surge in the late 1990s when many businesses tried to prepare for what they thought would be the impending Y2K disaster and the possible loss of data. These businesses began replacing their legacy systems with ERP software, which led to the surge in its market growth (Koch, 2002). Globalization, centralization, and regulatory compliance are the key drivers for continued ERP investment among large corporations. In the small and midsize business
(SMB) segment, which continues to outgrow the overall market, companies are buying new ERP systems in response to new customer requirements and the desire to participate in the global market (Jacobson et al., 2007).

The software sector, which contributed about 25 percent to IT spending in 2009 and mainly consists of the enterprise application market, generated revenues of $382 billion in 2009 (IMAP, 2010). The top players, such as Microsoft, SAP, and Oracle generated more than 75 percent of total revenues from this business software segment in 2009. Forrester Research data shows that more than two-thirds of companies are still investing in their ERP systems—despite the recession, upgrade costs, and maintenance fee complaints (Weilgum, 2009).

Despite the benefits of having ERP systems, companies realize these applications are expensive and difficult to implement because of the complexity of the software. ERP software is a double-edged sword: on one hand, it offers tremendous opportunity to improve and transform a business but on the other hand, it can be risky if the implementation isn’t managed correctly. There are many examples of failed ERP implementation projects that have been cited in the literature. Wailgum (2009) has noted that failed implementation projects have occurred at nationally-known companies such as Hershey Foods, Nike, Hewlett Packard, Waste Management, and other major companies. Larson (2009) states that Shane Jewelers, one of the 10 biggest U.S. jewelry retailers, declared bankruptcy in 2009 because of its unsuccessful ERP implementation project, which cost $36 million, more than three times what had been budgeted. Chapman (2007) reported that Whirlpool blamed a large shipment delay on its failed ERP implementation project. Krisgman (2007) also reported that the Los Angeles Independent School District’s ERP project was not successfully implemented, causing the teachers and staff much frustration when their paychecks couldn’t be processed.

When businesses implement an ERP system, these complex systems usually create a burden on the employees to use them effectively (Topi et al., 2005). Thus, to reduce the ERP implementation failure rate, which can be as high as 70 percent (Panorama Consulting, 2010), end users of the system should be actively involved in the implementation phase in order to reduce any resistance they might have to using this new system.

User acceptance of technology, specifically complex enterprise systems, has received much attention in IS research journals during the past several years. Several models, such as the Technology Acceptance Model, Theory of Reasoned Action, and the Theory of Planned Behavior Cognitive, propose several constructs to explain end-users’ acceptance behavior and IT usage (Davis, 1989; Ajzen & Fishbein, 1980; Ajzen, 1985). The Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) is the most recent work in the area of explaining and predicting user acceptance and use of technology.

Specifically, the purpose of this research is to use the UTAUT model to examine the external factors which influence user acceptance of ERP systems in a variety of industries in the US. The current paper begins with a discussion of the theoretical background of the study and develops the conceptual framework. The following sections present, successively, the research methodology, results, implications, and the conclusion.

**LITERATURE REVIEW**

Several models have been used in the research of user acceptance and usage behavior that provide explanation and justification for the variables under consideration. Each model will be examined briefly as to its relevance to the present study.

The TAM model, based on the theory of reasoned action by Fishbein and Ajzen (1975), was developed by Davis (1989) and expanded in Davis et al. (1989). According to Davis et al. (1989, p. 985), the goal of the TAM model is “to provide an explanation of the determinants of computer acceptance that is general, capable of
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