

A Survey Study of Influential Factors in the Implementation of Enterprise Resource Planning Systems

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ABSTRACT

Enterprise Resource Planning systems (ERP) play a significant role in the management of businesses processes. Determining the influential factors that are positioned behind a successful ERP implementation is critical to gain the most value-added from competitive potentials of such systems. The driver of current research is to gain a deeper understanding of the various subjective criteria to measure ERP implementation success with the aim of enhancing the chance success through investigating ERP implementation performance indicators. By exploring the international literature, a comprehensive list of potential success factors of ERP systems is identified which are complementary and critical to the ERP projects. Subsequently, reliability analysis and factor analysis were conducted to categorize the preliminary list into a final set of critical success factors for each of the primary factors. Therefore conducting an Exploratory Factor Analysis, three final factors were proposed as the main factors for evaluating the success of ERP implementation which are social, intellectual, and technical factors. The rest of indicators have been grouped under these categories. The result of current research is a firm basis for the interested scholars and practitioners to formulate their empirical attempts upon and proceed with every aspect of the ERP project according to the guidelines provided.

Keywords: Business Management, Enterprise Resource Planning Systems (ERP), Factor Analysis, Implementation Success, Model

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INTRODUCTION

The world of businesses changing gets an ever-accelerating rate. Companies today face the challenge of increasing competition, expanding markets, and rising customer expectations. This increases the pressure on companies to lower total costs in the entire supply chain, shorten throughput times, drastically reduce inventories, expand product choice, provide more reliable delivery dates and better customer service, improve quality, and efficiently coordinate global demand, supply, and production. In the face of these challenges, the role of technology is also changing rapidly. In such a complex environment, organizations need multi-dimensional solution suites that can help them protect their sustainable competitive advantages. Hence, the need to integrate key functions of the firms in order to improve productivity encourages companies to the implementation of integrated enterprise information systems such as enterprise resource planning (ERP) systems (Al-Mashari, 2003; Ehie, 2005; Nikookar, 2010; Pham & Teich, 2011; Sohrabi & Jafarzadeh, 2010; Umble et al., 2003; Yeh et al., 2007).

ERP system as an enterprise-wide information system is a combination of business processes and information technology, constituting an integrated enterprise computing system. It is designed to automate core corporate activities and flow of material, information, and financial resources among all functions within an enterprise on a common database. It provides a real opportunity for organizations to reduce business costs and integrate all necessary business processes and functions such as product planning, purchasing, inventory control, sales, financial and human resources, into a single system with a shared database (Chang et al., 2008; Ifinedo, 2008; Kutlu & Akpinar, 2009; Karsak & Ozogul, 2009; Liao et al., 2007; Morton & Hu, 2008; Sawah et al., 2008; Wu, 2011; Zahedi et al., 2011). It consists of a number of software modules aimed at supporting all business processes across functional divisions of an organization and enables organizations to manage their resources efficiently and ef-

fectively (e.g. materials, human resources, finance and the like) and meet an organization's information processing needs (Pan et al., 2011; Ramayah & Lo, 2007). Enterprise Resource Planning (ERP) system is designed to integrate and optimize various business processes such as order entry and production planning across the entire firm (Motwani et al., 2005). It is an obvious fit with efforts to improve operational effectiveness that can achieve integration and streamlining of internal processes by providing a suite of software modules that cover all the functional areas of a business (Beard, 2004; Upadhyay et al., 2011). In fact, ERP system is a smart tool that can be used by a firm to solve problems associated with widely distributed information sources (Chang, 2008).

Albeit the important benefits of this system and the huge investigation of organizations to implement ERP solutions, most of ERP projects become over budget, late and even fail (Basoglu, 2007). The reason for this matter lies in the complex and crucial nature of implementing enterprise resource planning system. As a consequence, multiple streams of researches exist on the critical factors required for successful ERP implementation as well as the impact of ERP on various performance and effectiveness measures and focus on the implementation process with the objective to identify the issues affecting ERP implementation in organizations. Despite the high volume of researches in this field, there has been scarce scientific literature that has investigated the implementation success of enterprise resource planning system (as a critical information system in the current era) and critical success factors (CSFs) (Chou & Chen, 2008; Mabert et al., 2006; Morton & Hu, 2008; Sankar, 2010; Upadhyay et al., 2011).

Therefore, due to the lack of a broad and pervasive research on critical success factors of successful ERP implementation, this study aims at exploring the underlying dimensions of ERP implementation success so as to develop a multiple item scale for measuring the success of implementation. In this regard, the paper presents a reliable set of indicators and factors through a widespread investigation of

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