

Effects of employees' perceived dependability on success of enterprise applications in e-business

Jung-Yu Lai^{a,*}, Chun-Chieh Yang^{b,1}

^a Institute of Electronic Commerce, College of Social Sciences and Management, National Chung Hsing University, No. 250, Kuo Kuang Rd., Taichung 402, Taiwan

^b Department of Information Management, College of Management, National Sun Yat-Sen University, No. 70, Lien-Hai Rd., Kaohsiung 804, Taiwan

Received 7 October 2006; received in revised form 21 September 2007; accepted 16 January 2008

Available online 4 March 2008

Abstract

Electronic business (e-business) plays a major role in modern economic networks due to its shorter cycle time and faster information transactions. Building enterprise applications that can coordinate activities, decisions, and knowledge across many functions is a good solution for e-business. Hence, how to implement enterprise applications successfully has become an increasingly important management issue. Although success of information systems (IS) has received fairly extensive attention from prior research, issues regarding whether functions and service delivered by systems can be justifiably relied on by users are seriously ignored, especially complex systems like enterprise applications. Thus, this paper attempts to extend this kind of concept, *perceived dependability*, into DeLone and McLean's IS success model to explore how it influences success of enterprise applications. Results from a survey of 170 respondents taken from six internationalized e-businesses in Taiwan strongly support that perceived dependability is indeed an important factor for success of enterprise applications. Additionally, over and beyond the effects of dependability on success of enterprise applications, it can help practitioners and managers get deep insights into how to implement e-business successfully.

© 2008 Elsevier Inc. All rights reserved.

Keywords: Dependability; E-business; Enterprise applications; Information systems success

1. Introduction

Enterprise applications refer to systems that can coordinate activities, decisions, and knowledge across many different functions, levels, and business units in a firm, including enterprise resource planning systems (ERPS), supply chain management systems (SCMS), customer relationship management systems (CRMS), and knowledge management systems (KMS) (Kalakota & Robinson, 2001; Laudon & Laudon, 2005). E-business, an enterprise with the capability to exchange values (goods, services, money, and knowledge) digitally or via computer network (Hackbarth & Kettinger, 2000; Jones, Wilikens, Morris, & Masera, 2000), uses distributed information technology, knowl-

edge management, and trust mechanisms to transform key business processes and relationships with customers, suppliers, employees, business partners, regulatory parties, and communities (Craig & Jutla, 2001). It is a new way of doing business that involves connectivity, transparency, sharing, and integration. This has heralded many new opportunities for organizations through the expansion and enhancements of their markets, as well as the extension and broadening of their supply chains (Chen & Ching, 2002). For this task, it is a good way for e-business to increase employees' job productivity and efficiency by deploying and implementing enterprise applications. As a result, whether functions and service delivered by enterprise applications can be relied on by employees will affect their completion of routine jobs or tasks. Conceivably, this kind of reliable or dependable beliefs will affect employees' satisfaction and use/intention to use, which are two important surrogate variables of IS success (Bailey & Pearson, 1983; DeLone & McLean, 1992, 2003; Doll & Torkzadeh, 1988; Ives, Olson, & Baroudi, 1983), indicating that

* Corresponding author. Tel.: +886 935 697 208; fax: +886 4 22859389.

E-mail addresses: jylai@dragon.nchu.edu.tw (J.-Y. Lai), y58815@ms6.hinet.net (C.-C. Yang).

¹ Tel.: +886 937 890107; fax: +886 7 525 4799.

they are critical factors for success of enterprise applications. Although related beliefs including trust, trustworthiness, or benevolence, have played increasingly important roles in cyberspace (Hoffman, Novak, & Peralta, 1999; Jones et al., 2000; Paulus, 2001) due to the burgeoning development of electronic commerce (e-commerce) and e-business, they are usually employed to characterize either the more general reliance of business actors and private citizens or consumers on other actors (Hoffman et al., 1999; Jones et al., 2000) or systems (Paulus, 2001) within the Information Society. Meanwhile, they stress the development of trust between stakeholders. However, on the other hand, they focus on system properties like security and privacy. Illustratively, the term *trust* can also be adopted to describe systems that perform as expected along the dimensions of correctness, security, reliability, safety, and survivability (Schneider, 1999). As a result, trust has become a multi-dimensional and more complex belief (Gefen, Karahanna, & Straub, 2003; Lee & Turban, 2001; McKinght, Choudhury, & Kacmar, 2002; Tan & Thoen, 2000) and its broad use has already introduced unnecessary confusions (Friedman, Kahn, & Howe, 2000), particularly since it involves both social and technical aspects. For instance, it is reasonable to speak of relying on simple machines, but not trusting in them. Hence, this demands a much simpler concept described in the following as perceived dependability, which is related to whether functions or service delivered by information systems can be relied on by users, for us to explore how it influences the success of enterprise applications.

Undoubtedly, understanding how to implement enterprise applications successfully is extremely important for e-business management. However, it still lacks relevant empirical evidence that sheds light on this issue, particularly employees' reliable or dependable beliefs in enterprise applications. Although the literature on success of enterprise applications in e-business is scarce, models of organizational IS success has received much attention (Walstrom & Leonard, 2000) and can offer a foundation for exploring success of enterprise applications in the e-business context. Information systems success model, first developed by DeLone and McLean (1992) and later revised by them (DeLone & McLean, 2003), provides a better perspective on the various success measures used in past research (Molla & Licker, 2001; Rai, Lang, & Welker, 2002; Seddon, 1997; Seddon & Kiew, 1994). It classifies factors contributing to IS success and seems to be a promising way for us to understand what the factors are and how they affect the successful implementation of enterprise applications, especially the two major dimensions of IS success: intention to use (or usage) and user satisfaction (e.g., DeLone & McLean, 2003, 2004). However, previous results were empirically validated in the contexts of e-commerce (Molla & Licker, 2001) or user-developed applications and individual systems (McGill & Hobbss, 2003; Rai et al., 2002). These results were examined either by consumers or students, rather than employees. On the other hand, the focus of e-business is different from that of e-commerce although it is sometimes used as a broader definition of e-commerce (Kalakota & Robinson, 2001; Schneider, 2006; Turban, King, Viehland, & Lee, 2006). For the purpose of this research, we need to distinguish e-business from e-commerce.

In this study, e-commerce is seen as different from e-business and stresses simply on processes of buying, selling, or exchanging products, services, or information via computer networks (Turban et al., 2006). On the contrary, e-business emphasizes the complex diffusion of business processes, enterprise applications, and organizational structure to create a high-performance business model (Kalakota & Robinson, 2001). Sometimes, it needs a journey of transformation and is about changing business models to create new or increased value for the customer (Craig & Jutla, 2001). In this article, we use the term "e-business" rather than "e-commerce" and focus on a more specific type of e-business—*intraorganizational e-business* (i.e., management of logistics within businesses or administrations) (Jones et al., 2000) to describe the domain of interest, as we believe that this reflects more accurately the diversity of activities affected by recent developments in the use of enterprise applications.

Obviously, the new context of e-business has indeed fuelled a necessity for understanding how dependable beliefs perceived by employees affect the success/effectiveness of enterprise applications in e-business through gratifying employees and influencing their willingness to use. Unfortunately, previous research has normally not taken this issue into consideration when exploring how it affects employees' engagement in enterprise applications. According to prior research on IS success model (DeLone & McLean, 1992, 2003; Rai et al., 2002; Seddon, 1997), this paper proposes a new variable, *perceived dependability*, and aims to explore how it affects success of enterprise applications for more in-depth explanations in the context of e-business. From this proposed model and our findings, managers and researchers can understand better the role perceived dependability plays in affecting the successful implementation of enterprise applications.

2. Theoretical development

Fig. 1 depicts the research model employed in this study, which was developed from the prior IS success (Dabholkar, 1996; DeLone & McLean, 1992, 2003) and its modified model (Rai et al., 2002; Seddon, 1997) by expanding perceived dependability. Meanwhile, we suggest that perceived dependability plays an intermediate role between the two groups of variables. In other words, information quality and system quality influence intention to use and user satisfaction through perceived dependability.

2.1. Perceived dependability as a multi-attribute belief

It is postulated that two factors influence employees' perception of dependability: service and system attributes. In service perspective, the ability of e-business to deliver functions and service, whether from enterprise applications or IS/IT department, is closely related to the completion of employees' jobs and tasks. These functions and service that assist employees in collecting, analyzing, retrieving data, and producing information is meaningful for their jobs and tasks. Moreover, the service delivery process between enterprise applications or e-business

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات