



ELSEVIER

Available online at www.sciencedirect.com

SCIENCE @ DIRECT®

Int. J. Production Economics 98 (2005) 56–80

international journal of
**production
economics**

www.elsevier.com/locate/dsw

A framework of ERP systems implementation success in China: An empirical study

Zhe Zhang^{a,*}, Matthew K.O. Lee^b, Pei Huang^a, Liang Zhang^b, Xiaoyuan Huang^c

^a*School of Management, Shanghai Jiao Tong University, Shanghai 200052, P.R. China*

^b*Department of Information Systems, City University of Hong Kong, Kowloon, Hong Kong, P.R. China*

^c*Faculty of Business Administration, Northeastern University, Shenyang 110004, P.R. China*

Received 1 December 2003; accepted 18 September 2004

Available online 11 November 2004

Abstract

Enterprise resource planning (ERP) system is one of the most widely accepted choices to obtain competitive advantage for manufacturing companies. However, the successful implementation rate is low and many firms did not achieve intended goals in China. This study develops an ERP implementation success framework by adapting the Ives et al. information systems (ISs) research model and DeLone and McLean's IS success model to identify both critical success factors and success measures. Qualitative case study research methodology is used to collect data and Atlas/ti program is used to facilitate data analysis. Discussion is made finally and suggested ERP systems implementation methodology is given at the end.

© 2004 Elsevier B.V. All rights reserved.

Keywords: ERP; Business process reengineering; ERP systems implementation; Critical success factors; Case study

1. Introduction

Kumar and Hillegersberg (2000) defined enterprise resource planning (ERP) systems as “configurable information systems packages that integrate information and information-based processes within and across-functional areas in an organization”. In information systems (ISs) area,

implementation is defined as “the process that begins with the managerial decision to install a computer-based organizational information system and is complete when the system is operating as an integral part of the organization's information system” (Burns and Turnipseed, 1991). ERP is probably the most rapidly growing system area in operations today. Thousands of companies have implemented or are in the process of implementing an ERP system. IDC predicts that ERP software sales in Greater China, comprising China, Hong Kong, and Taiwan, will grow at an annual rate of

*Corresponding author. Tel.: +86 021 64482867; fax: +86 021 62933262.

E-mail address: zhangz27@hotmail.com (Z. Zhang).

24.2%, up from US \$84.5 million in 1998 to US \$243.3 million by 2003. According to [CCID Report \(2004\)](#), ERP sales in Mainland China reached US \$226.9 million in 2003, and will reach US \$652.8 million in 2008, at an estimated growth rate of 23.5% over the next 5 years. Significant benefits such as improved customer service, better production scheduling, and reduced manufacturing costs can accrue from successful implementation of ERP systems ([Ang et al., 1995](#)).

However, ERP systems are expensive and time-consuming, and once ERP systems are implemented, management should evaluate whether it is successful. A recent Standish Group report on ERP implementation projects reveals that these projects were, on average, 178% over budget, took 2.5 times as long as intended and delivered only 30% of promised benefit. Nearly 1000 companies in China have implemented MRP, MRP II or ERP systems since 1980. The successful implementation rate is extremely low at only 10% ([Zhu and Ma, 1999](#)). The large difference of ERP systems implementation success rate between Western countries and China produces a need of research to examine generic and unique factors that affect ERP implementation success in China since foreign ERP vendors have more than 90% ERP market share ([IDC, 1998](#)) and more than 80% in 2000 (<http://www.sina.com.cn>) in China. Furthermore, Chinese culture is quite different from Western countries in terms of the four dimensions of national culture developed by [Hofstede \(2001\)](#) and the dimension of uncertainty avoidance is highly relevant to ISs implementation. Organizational culture is imbedded within national culture and it is regarded as the unique factor affecting ERP systems implementation success.

In Section 2, literatures on both determinants of ERP systems implementation success and success measures including IS literature are reviewed to facilitate understanding of current research status. The proposed conceptual framework and propositions are developed in Section 3. Section 4 introduces the research methodology of multiple-case study. Targeted interviewees and data collection method are described in this chapter. After that, data analysis is conducted in Section 5 and research findings are discussed in Section 6.

Finally, the study makes a conclusion with a summary on the study.

2. Literature review

By comparison to ISs research and other academic fields, theories on ERP systems implementation have been given less attention. Most published articles on the field of ERP systems implementation unavoidably lack theoretical support (see Appendix A). Thus, in this study ISs literature is reviewed in an attempt to find theories that could be adapted to the ERP field.

2.1. ERP systems implementation literature

Limited studies have been conducted to identify critical factors affecting ERP systems implementation success with many of them focused on single-case study of “how we implemented ERP systems in our company” ([Ang et al., 1995](#); [Bingi et al., 1999](#); [Cox and Clark, 1984](#); [Holland and Light, 1999](#); [Mandal and Gunasekaran, 2002](#); [Motwani et al., 2002](#); [Sum et al., 1997](#); [Wilson et al., 1994](#); [Yusuf et al., 2004](#)). Moreover, most studies that have measured ERP implementation success used only one or two surrogates of ERP implementation success ([Ang et al., 1994, 1995, 2002](#); [Burns and Turnipseed, 1991](#); [Malbert et al., 2003](#); [Umble et al., 2003](#); [Wilson et al., 1994](#)).

The literature varies regarding what variables are required for implementation success or responsible for failure. It suggests that problems with the implementation of ERP systems occur for a number of reasons. These reasons include:

- (1) The need for business process change during the implementation of an ERP system is needed ([Al-Mashari et al., 2003](#); [Bingi et al., 1999](#); [Burns and Turnipseed, 1991](#); [Hong and Kim, 2002](#); [Malbert et al., 2003](#); [Mandal and Gunasekaran, 2002](#); [Motwani et al., 2002](#); [Umble et al., 2003](#); [Yusuf et al., 2004](#)).
- (2) Lack of top management support, data accuracy, and user involvement can attribute to system implementation failures ([Al-Mashari et al., 2003](#); [Ang et al., 1994, 1995, 2002](#); [Bingi](#)

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