

# The Factors Affecting Successful Implementation of ERP in Nanjing Manufacturing SMEs

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## ABSTRACT

*Enterprise Resource Planning (ERP) system in companies can be implemented to Multi National Corporation (MNC), Larger Enterprise, and Small & Medium-sized Enterprises (SMEs). In China, 99% of all companies can be categorized as SMEs. With a decade of high-speed economy development after entering the 21st century, traditional Chinese SMEs want to find a new management model to improve work efficiency and increase business opportunities. This study finds the factors affecting the diffusion and successful implementation of ERP in Chinese Nanjing manufacturing SMEs. It will lead to the conclusion that ERP investment and implementation, which could be used as project guideline by the management of SMEs or companies that adopt ERP in intend to implement them. The objective is to provide Nanjing's SMEs implementing ERP with knowledge about ERP implementation factors.*

*Keywords: Chinese SMEs, Enterprise Resource Planning (ERP), ERP in SMEs, Factors of ERP Implementation, Small & Medium-Sized Enterprises (SMEs), Small Business Management*

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## INTRODUCTION

Small and Medium Enterprises (SMEs) are considered as the backbone of economic growth in all nations because they are accounted for 80% of global economic growth (Jutla et al., 2002). SMEs provide a substantial share of the manufactured exports of East Asia (56% in Taiwan, over 40% in China and the Republic of Korea - Rajesh et al., 2010). The new business environments have thrown several challenges to SMEs in rapid developing economies like

in China. With the changes of world economy, many risks and opportunities are revealed to Chinese SMEs, such as economic downturns, rapidly changing customer demands and volatile financial markets (credit crisis 2008 – 2010). These have raised the big pressure on Chinese SMEs to come up with efficiency and competitive capabilities to survive and succeed. Enterprise Resource Planning (ERP) will be the solution and key for their further survival in today's business world (Rao, 2000).

Using ERP, large manufacturing firms are linking up with their suppliers and customers located in many parts of the world. Peoples are sharing information with each other on a

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real-time basis. ERP can speed up responses to customer orders and queries, reduce inventories, shorten production cycle time, improve quality, enhance the efficiency of product and delivery service, and strengthen inter-company coordination (Markus et al., 2000; Jaiswal, 2007).

After focusing on the large-scale firms, ERP vendors are now targeting on SMEs (Yen et al., 2002; Olhager & Sellidin, 2003). In recent times, many multinational companies have restricted their operations to partnering only with those midsize companies that are using compatible ERP software. Hence, it becomes essential for many midsize companies to adjust their business model and adopt ERP software that is compatible with the large enterprises with which they deal with (Rao, 2000). However, ERP implementation in SME and large organization cannot be viewed similarly as there are vast difference in characteristics between the two. Particularly in SMEs, there are severe resource limitations in terms of management and manpower, R&D, finance, marketing and etc. SMEs deal with small number of customers and operating in limited markets, so their structures are flat and flexible (Addy et al., 1994; Burns & Dewhurst, 1996; Ghobadian & Gallea, 1997).

Though ERP is needed in all organizations, its implementation is not always successful. There are many failures, even for large firms that have all resources, need to perform a careful planning and implementation (Bingi et al., 1999). One-third of ERP implementations fail, or not successful to their expected goals. ERP implementation is a complex and huge cost involvement procedure (Sarkis & Sundarraj, 2003). There have been horror stories of ERP implementation and improper implementation has taken the companies to bankruptcy; and in several cases the organizations decided to abandon the ERP implementation projects once and for all. Some of the reasons are lack of support from the top management, resistance from employees, poor selection of ERP systems and vendors, marginal end results and etc. (Bhatti, 2005).

Since the purpose of this study is to find the factors affecting the diffusion and success-

ful implementation of ERP in Chinese Nanjing manufacturing SMEs, then what are the factors affecting the successful implementation of ERP in Nanjing manufacturing SMEs?

## RESULTS OF LITERATURE REVIEW

Companies began to use enterprise resource planning system to help organizations managing resources during 1990s. ERP system is one of the most popular for organizations in recent years. Davenport (1998) suggests that ERP will be the best important tool in the corporate use of information technology (IT). The ERP system is integrated software solutions that cover all of the business processes and departments to gain a holistic view of the business (Ehie & Madsen, 2005).

ERP system can make the information exchange within many different departments, such as marketing, accounting, human resources, operations and so on (Koh & Saad, 2006; Motwani et al., 2005). With many useful functions of ERP, it can surely be beneficial for businesses. Mostly big businesses select ERP to be the indispensable tool for a company's management.

### Enterprise Resource Planning (ERP) in SMEs

As the trend of world economic development, the SMEs quest for the same business tool to earn more benefits. The demand for such system in small and medium-sized enterprise has mushroomed in recent years (Everdingen et al., 2000; Greenemeier, 2001). There are potentially many factors that can motivate or persuade SMEs to adopt an ERP system. Examining the factors that influence the decision to adopt ERP in SMEs, Ariss et al. (2000) proposed the following classification:

- Factors related to the product/market (improvement of product quality, improvement in product design);

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