

# An E-Commerce Key Success Factors Framework for Chinese SME Exporters

Huilan Zhang<sup>1</sup> & Sam C. Okoroafo<sup>1</sup>

<sup>1</sup> College of Business and Innovation, The University of Toledo, Toledo, OH, USA

Correspondence: Huilan Zhang, College of Business and Innovation, The University of Toledo, Toledo, OH, 43606, USA. E-mail: Huilan.Zhang@rockets.utoledo.edu

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## Abstract

Small and medium-sized enterprises (SMEs) have been playing a key role in Chinese economic development since the 1990s. However, little research focuses on how Chinese SME exporters succeed in the global market through e-commerce system. The purpose of this paper is to critically develop an e-commerce key success factors framework for Chinese SME exporters in an effort to help them gain long term success in the global market.

**Keywords:** SMEs, exporters, e-commerce, success factors

## 1. Introduction

Small and medium-sized enterprises (SMEs) have been playing a key role in Chinese economic development since the 1990s (Wei et al., 2007). In the 1990s, China had only about one million private sector SMEs (Hall, 2007). This number increased to 400 million by the year of 2012. Of the 400 million SMEs, the number of the SME exporters is about 5 million. The first decade of the 21<sup>st</sup> century witnessed the rapid export achievement of China (shown in Figure 1). This achievement highlights that the Chinese economy has been greatly involved in economic globalization. According to “SMEs export” (2012), 60 percent of China’s exports are contributed by SME exporters. While China’s export growth is about double its GDP growth (shown in Table 1), it is not surprising that Chinese SME exporters draw much attention from researchers.

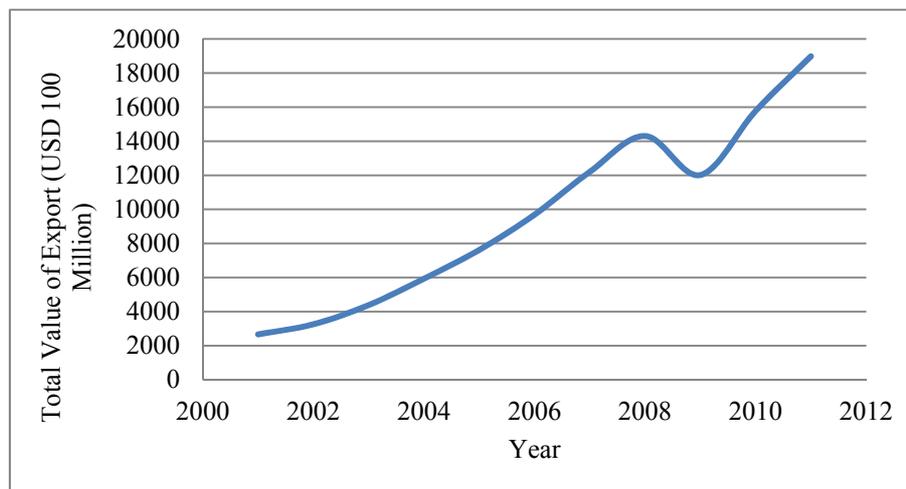


Figure 1. Value of exports of China

Data Source: National Bureau of Statistics of China.

Table 1. Export growth rate and GDP growth rate

Year	Export Growth Rate	GDP Growth Rate
2001	6.78	8.3
2002	22.36	9.1
2003	34.59	10
2004	35.39	10.1
2005	28.42	11.3
2006	27.17	12.7
2007	25.96	14.2
2008	17.23	9.6
2009	-16.01	9.2
2010	31.30	10.4
2011	20.32	9.3

Data Source: National Bureau of Statistics of China; and World Bank.

Along with the rapid development of SMEs, commercial applications of the internet for e-commerce have proliferated. In 2001, the volume of Chinese business to business (B2B) e-commerce transactions reached 107.7 billion Yuan (about 16.60 billion USD), and was still growing; in 2007, Chinese B2B trade amounted to 24.5 trillion Yuan (about 3.77 trillion USD), of which the proportion for SMEs was up to 57.8% (Li & Tao, 2009). In 2011, the volume of Chinese B2B e-commerce transaction reached 3.4 trillion Yuan (about 520 billion USD). Also, the number of SMEs who employ e-commerce exceeded 48 million (iResearch, 2011). It is expected that the number of SMEs who employ e-commerce will increase at 8% annually (iResearch, 2011).

E-commerce shows such great potential in that it offers huge opportunities for SMEs, especially those exporters, to enter foreign markets by allowing them to communicate globally with customers, distributors and suppliers as efficiently as multinationals do. The adoption of e-commerce by SMEs has been studied by a number of researchers (Nguyen & Barrett, 2006; Gilmore, Gallagher, & Henry, 2007; Li & Tao, 2009; Cao, Hartung, Forrest, & Shen, 2011; Senik, Scott-ladd, Entekin, & Adham, 2011; R. Ramanathan, U. Ramanathan, & Hsiao, 2012). Based on a review of the literature, this study has found some important gaps. First, there are only a few studies looking at adoption of e-commerce by Chinese SME exporters. For those who looked at adoption of e-commerce, they only discussed the drivers of e-commerce (Cao et al., 2011; Li & Tao, 2009). Second, while most of the studies have focused on the general adoption of e-commerce in SMEs, there seems to be relatively few studies that attempt to understand the success factors of e-commerce, with one exception (Chong, Shafaghi, & Tan, 2011). Chong et al. (2011) provides a framework addressing the internal and external critical factors for SMEs operating in Chinese B2B marketplace, in an effort to assist in the marketing management of B2B in China. Third, while some studies focus on SMEs who develop export capability through e-commerce (Castleman & Cavill, 2001; Nasah, Japang, & Leng, 2012), very little research focus on Chinese SME exporters. To the best of our knowledge, there are currently no other studies that discuss the critical factors of e-commerce adoption for Chinese SME exporters. To fill this literature gap, we will develop an E-commerce key success factors framework for Chinese SME exporters.

The remaining of the paper is organized as follows. We clarify the definition of SMEs in section 2. We then discuss the rationale for Chinese SMEs to implement e-commerce in section 3. E-commerce key success factors framework including the propositions are analyzed and addressed in section 4. Managerial implication is discussed in section 5. Finally, conclusions are drawn.

## 2. Definitions of SMEs

There is no consensus on the definition of SME worldwide. This study is conducted under the Chinese context, so it is of importance to make clear the definition of Chinese SMEs. In the year 2003, State Economic and Trade Commission of China announced a standard for Chinese SMEs. The SME criteria are set based on industry, annual sales and number of employees. The classification is summarized and shown in Table 2.

Table 2. The definition of SMEs in China

Industry Type	Size	Employees	Annual Sales (million US\$)
Manufacturing	Medium	300–2000	4.6–46
	Small	Less than 300	Less than 4.6
Construction	Medium	600–3000	4.6–46
	Small	Less than 600	Less than 4.6
Wholesale	Medium	100–500	1.5–23.08
	Small	Less than 100	Less than 1.5
Retail	Medium	100–200	4.6–46
	Small	Less than 100	Less than 4.6
Transportation	Medium	500–3,000	4.6–46
	Small	Less than 500	Less than 4.6
Lodging and Catering	Medium	400–800	4.6–23.07
	Small	Less than 400	Less than 4.6
Post Service	Medium	400–1,000	4.6–23.07
	Small	Less than 400	Less than 4.6

Source: State Economic and Trade Commission, China.

“According to this definition, 99 percent of the country’s 10.3 million companies are SMEs, which account for more than 80 percent of urban employment and produce 60 percent of China's GDP”, Xinhua News Agency reported in 2010 (China Daily, 2010). In this study, we will adopt the definition under manufacturing category, since the manufacturing SMEs with export-orientation is of interest in this study.

### 3. Rationales for Chinese SMEs to Implement E-Commerce

#### 3.1 E-Commerce

There is not universal definition for E-commerce. Turban, King, Mckay, Marshall, Lee, & Viehland (2008) define e-commerce as the process of buying, selling, transferring, or exchanging products, services, and/or information via computer networks, including the internet. According to Gregory, Karavdi, & Zou (2007), e-commerce is more than simply buying and selling goods electronically. They define e-commerce as an environment for presenting, trading, distributing, servicing customers, collaborating with business partners, and conducting transactions using electronic technologies. However there is general consensus among researchers that the main components of e-Commerce include: website, email, intranet, extranet, LAN and wireless area network (WAN), and Voice over Internet Protocol (VOIP) (Iddris, 2012). These types of E-commerce including but not limited to B2B, B2C, B2G, C2C, and Mobile Commerce. In this study, we will focus on B2B e-commerce, and define it as an electronic platform adopted by Chinese SMEs in order to communicate with foreign distributors and to better serve various needs of customers in that foreign country.

#### 3.2 Rationale for E-Commerce

Several proactive drivers have been identified as rationale for SMEs to adopt the e-commerce (Gilmore et al., 2007). Proactive reasons include the chance to reduce transaction costs by passing some of the intermediary and facilitating linkages to the global supply chains (Molla & Licker, 2005), and to increase communications and performance (Jeffcoate, Chappell, & Feindt, 2002). Gilmore et al. (2007) identify four major e-commerce drivers, both internal and external, in terms of their relevance to export marketing strategy. “Internal e-commerce drivers include product online transferability and e-commerce assets, and external drivers include e-commerce infrastructure and demand for e-commerce” (Gilmore et al., 2007). In line with the above mentioned literature, we claim that the Chinese SMEs adopt e-commerce to reduce transaction cost, better understand the needs of foreign customers, reduce communication barrier, and quickly transfer product. First, e-commerce can help Chinese SMEs cut out middlemen and going straight to foreign distributors, thus reduce their transactions cost. Second, Chinese SMEs can acquire information about particular customer needs and foreign competitors from foreign distributors through e-commerce all over the world 24/7. Third, due to the fact that most Chinese SMEs

have very limited English communication skills in doing business globally, SMEs can bypass the constraints of language. For example, Ariba, the global leader in B2B commerce and collaboration, allows buyers and sellers to negotiate and conduct trade online in the language and currency determined by each trader's region or personal preference ("Ariba Announces", 2001). For such reason, the communication barrier will be greatly reduced. Fourth, e-commerce can help Chinese SMEs build their logistics system. Currently, most Chinese SMEs outsource the logistics functions to other firms and treat logistics as a foreign transaction fee in which costs are added to domestic commerce (Cao et al., 2011). E-commerce will help SMEs build healthy and long term relationship with foreign distributors; thus, SMEs can benefit from logistics system of their partners or even build its logistics system in the long run. To this end, the goods will be transferred to customers in a timely and efficient manner.

#### 4. E-Commerce Key Success Factors Framework

Eid & Trueman (2004) proposed 33 critical factors classified into five categories and validated empirically through a sample of 123 UK business-to-business international companies that use the Internet for their marketing activities. Based upon Eid & Trueman (2004), Chong et al. (2011) explored business-to-business critical success factors (B2B CSFs) for small and medium-sized enterprises (SMEs) operating in the Chinese B2B marketplace, and use the generated CSFs to propose a framework to assist in the marketing management of B2B in China. The CSFs include successful customer relationships, supply chain facilities, Global competitiveness, IS/IT performance, transparency and visibility of information, top management support and commitment, government encouragement and commitment, security and trust, and cultural considerations. J. Armario, Ruiz, & E. Armario, (2008) develop a model regarding the relationships among market orientation, knowledge acquisition, and market commitment, and the direct and indirect effects of these variables on the performance of SMEs in foreign markets. In this study, we will combine these three studies and develop our framework for Chinese SME exporters.

The key factor located in the center of our model is e-commerce performance. It is the goal that Chinese SMEs want to achieve through e-commerce system. There are five factors that impact e-commerce performance, including IT capability, security and trust, government support, market orientation, and knowledge acquisition. We choose these five factors from the three abovementioned studies because those studies had emphasized the positive effect of each factor on firm's performance. As far as we are concerned, these five factors are more significant and essential relative to other factors for Chinese SMEs. IT adoption, security and Trust are more E-commerce related, while market orientation and knowledge acquisition are more marketing related. If Chinese SMEs can balance the two efforts well, they will more likely to increase business opportunities with foreign distributors, therefore, to improve their E-commerce performance.

The proposed framework is shown in Figure 2.

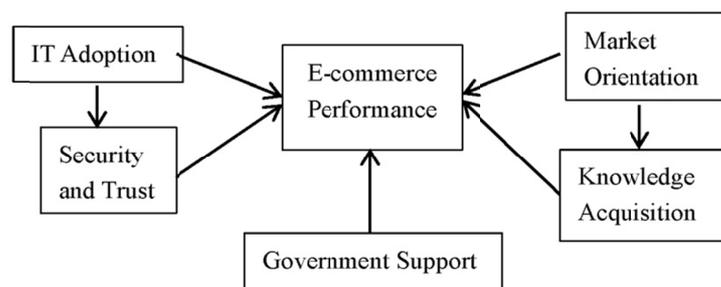


Figure 2. E-commerce key success factors framework

##### 4.1 IT Adoption

SMEs have to adopt IT to optimize business process such as planning, control, collaboration and communication, addressing information needs and internal operations and expectations, making timely and informed decisions, and implementing business strategies (Fong, 2011). Jeffcoate et al. (2002) also suggest SMEs adapting to the Internet for strategic use, and claims that without the internet, SMEs will face stiff competition from online competitors with first mover advantages.

Major problems among Chinese SMEs exporters are the low level of information technology, as well as a

shortage of funds (Li & Tao, 2009). But now this situation is changing due to the importance of IT adoption is realized by Chinese SMEs. According to a survey conducted by CCW Research, in 2009, 28.6% of SMEs work on LAN construction, 22.1% of SMEs invest in financial information systems, 19.3% of SMEs work on their own website construction, and 14.3% of SMEs start to build their OA systems. As for the more advanced IT system, 7.9% of SMEs start to build ERP system, 5.0% of SMEs start to build SCM, and 2.9% of SMEs work on BI distribution.

E-commerce is entirely an Internet-based platform, and the establishment of such a platform is dependent on IT adoption. So if SMEs invest in various IT systems, they will be more likely to gain e-commerce success. Bharadwaj (2000) also demonstrated that the average performance of firms identified as possessing superior IT was significantly superior to the average performance of a matched set of firms.

#### *4.2 Security and Trust*

In the e-commerce setting, security is one of the predominant risks that the business may perceive, especially those in China. When businesses look for opportunities online, they may be exposed to the risk of online fraud, information theft, theft of service, and corruption of data. For these reasons, security concerns may carry a lot of weight with businesses who want to conduct transaction online. The potential risks thus may influence businesses' decision making about whether or not to conduct business with other parties online.

Various studies address the impact of security risk on online business intention. For instance, the research of Ling, Daud, Piew, Keoy, & Hassan (2011) reveals that security risk is highly related to online trust, which in turn is positively related to business intention. Kim, Ferrin, & Rao (2008) found that the internet consumers' trust and perceived risk have strong impacts on their purchasing decisions. Chen & Barnes (2007) indicate that perceived security is one of the important antecedents to online initial trust, which has a positive impact on business intention. Mukherjee & Nath (2007) argue that privacy and security features of the e-commerce are the key antecedents of trust, which in turn positively influences relationship commitment.

The sharing of information between exporters and foreign distributors can be done through e-commerce system. IT adoption in terms of software, hardware, and website development will facilitate the information sharing between exporters and foreign distributors. The advancement in IT means that communications among the two parties are more efficient now than in the past (Chong, Ooi, Lin, & Tang, 2009). Security won't be an issue given that two parties get to know each other well and trust each other.

#### *4.3 Government Support*

Chong et al. (2011) surveyed 114 Chinese SMEs participating in B2B e-marketplace and find that government plays a critical role in creating a favorable and consistent commercial e-environment. They thus recommend that governments should "facilitate and assist in the provision of information for the development and adaptation of B2B e-commerce at international level" (Chong et al., 2011). Khalifa, Banerjee, & Ma (2003) attributed the rapid Chinese B2B e-commerce growth to the commitment of the Chinese government towards building up the necessary infrastructure and working towards framing of laws governing cross-border trade, taxation in e-commerce. The Chinese government not only facilitates e-environment, but also takes a series of steps to help SMEs boost export. For example, during the financial crisis between 2008 and 2009, China raised its export tax rebates seven times on a wide range of goods ("China to raise", 2012). In addition, the Ministry of Finance has set up a 1.9-billion-yuan (about 292 million USD) special budgetary fund to support the innovation and technological progress of SMEs and set aside 1.2 billion Yuan (about 185 million USD) to support their international economic cooperation activities.

#### *4.4 Market Orientation*

Market orientation is the "organization-wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments, and organization-wide responsiveness to it (Kohli & Jaworski, 1990). From this definition, we can see that market orientation has the potential to help an organization understand and meet customers' needs and expectations. When it refers to exporting firms, some scholars assert that with market orientation, exporting firms continually identify and respond to customers' needs, competitors' new marketing strategies, and environmental changes in export markets (Ju, Murray, Kotabe, & Gao, 2011). Empirical evidence offered by these scholars (Ju et al., 2011) suggests that market orientation activities help attenuate distributor opportunism caused by information asymmetry. In global markets without e-commerce, information asymmetry prevails as exporters tend to have less information about customers and competitors in foreign markets than distributors. Gebhardt, Carpenter, & Sherry (2006) find that creating a market orientation requires dramatic changes to an organization's culture and the creation of organizationally

shared market understandings. In addition, some empirical research confirm that there is a positive relationship between market orientation and export performance (Akyol & Akehurst, 2003; Cadogan & Cui, 2004; Gonzalez & Chiagouris, 2006; Armario et al., 2008). Although these studies do not test the relationship in e-commerce context, there won't be much difference. As a platform, e-commerce system can facilitate the information sharing among SME exporters and foreign distributors to nurture or reinforce market orientation. With market orientations, SME exporters constantly identify and respond to customers' needs, competitors' new marketing strategies, and environmental changes in export markets (Ju et al., 2011). For this reason, SME exporters will obtain better e-commerce performance.

#### 4.5 Knowledge Acquisition

There are two major ways by which SMEs become internationalized. One is "born global", the other is go global with a "learning process" (Armario, et al., 2008). Knowledge acquisition is necessary for the latter. As far as we are concerned, knowledge acquisition refers to acquiring of information about customers, competitors, and environmental forces in the foreign markets. The knowledge about foreign market obtained through export experience not only creates opportunities for exporters to increase foreign market share, but also ensures their survival in the long run, thus, increase their performance in foreign markets (Lord & Ranft 2000; Armario et al. 2008; Dib, Da Rocha, & Da Silva, 2010). With the help of e-commerce system, knowledge acquisition may become more efficient. The foreign market knowledge can be used by SME exporters to cope with environment uncertainty, manage distributor and to create and deliver superior customer value.

Exporters with market orientation should have superior capabilities to sense the market (Armario et al., 2008). These capabilities can help exporters to identify new market opportunities overseas. However, just because they can identify new market opportunities overseas does not necessarily mean that they can export goods to that new market successfully. They have to get to know the knowledge about market norms and rules. Even if they can enter that market, they still have to learn through experience to gain long term success. E-commerce system is the platform through which knowledge will reach the exporters.

### 5. Managerial Implications

Our framework suggests five success factors for Chinese SEM exporters who conduct business through e-commerce system. Exporters can increase their e-commerce performance by investing in IT, ensuring security to build trust with foreign exporters, gaining government support, adopting market orientation strategy, and acquiring knowledge through learning process. This framework will give exporters a guideline as to how to conduct business through e-commerce, not just for the sake of adopting e-commerce. We believe that e-commerce equipped SME exporters will tend to gain long term success given that they employ the method implicated in this framework. One the other hand, this framework will give foreign distributors a clear picture about the Chinese SME exporters' business strategies. The information transparency will ease their concerns while conducting business with Chinese SME exporters. It will follow that the two parties will build long term relationship to reach win-win situation.

### 6. Conclusion

SME exporters play an increasingly important role in Chinese economy. This study provides an original attempt to develop an e-commerce key success factors framework in an effort to help Chinese SME exporters to succeed in foreign market through e-commerce system. Academic research on this field is still very rare. We hope that this study serve as a starting point and call for more attention on this field. We suggest several directions for further research. First, we hope more empirical research will be conducted to examine the validity of this framework. Second, other factors mentioned in the literature such as cultural considerations, supply chain facilities, successful customer relationships, and global competitiveness can be added to this framework and tested through empirical research. Thus, a more reliability framework will be obtained to help Chinese SMEs gain competitive advantage in global market.

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