

## Chapter 4.4

# B2B E-Commerce Infrastructure Success Factors for Small Companies in Developing Economies

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### ABSTRACT

This chapter looks into the key infrastructure factors affecting the success of small companies in developing economies that are establishing B2B e-commerce ventures by aggregating critical success factors from general e-commerce studies and studies from e-commerce in developing countries. The factors were identified through a literature review and case studies of two organizations. The results of the pilot study and literature review reveal five groups of success factors that contribute to the success of B2B e-commerce. These factors were later assessed for importance using a survey. The outcome of our analysis reveals a reduced list of key critical

success factors that SMEs should emphasize as well as a couple of key policy implications for governments in developing countries.

### INTRODUCTION

Information and Communication Technology (ICT) can provide a small enterprise an opportunity to conduct business anywhere. Use of the Internet allows small businesses to project virtual storefronts to the world as well as conduct business with other organizations. Heeks and Duncombe (2001) discuss how IT can be used in developing countries to build businesses. Domaracki (2001) discusses how the technology gap between small

and large businesses is closing and evening the playing field, making B2B and B2C e-commerce available to any business with access to computers, web browsers, and telecommunication links. This chapter discusses how small start-up companies can use ICT to establish e-commerce applications within developing economies where the infrastructure is not classified as “high-technology”.

E-commerce is the process of buying, selling, or exchanging products, services, and information using computer networks including the Internet (Turban et al., 2002). Kalakota and Whinston (1997) define e-commerce using the perspectives of network communications, automated business processes, automated services, and online buying and selling. Turban et al. (2002) add perspectives on collaboration and community. Deise et al. (2000) describe the E-selling process as enabling customers through E-Browsing (catalogues, what we have), E-Buying (ordering, processing, invoicing, cost determination, etc.), and E-Customer Service (contact, etc.). Partial e-commerce occurs when the process is not totally using networks. B2C e-commerce is the electronic sale of goods, services, and content to individuals, Noyce (2002), Turban et al. (2002). B2B e-commerce is a transaction conducted electronically between businesses over the Internet, extranets, intranets, or private networks. Such transactions may be conducted between a business and its supply chain members, as well as between a business and any other business. A business refers to any organization, public or private, for profit or nonprofit (Turban et al., 2002, p. 217; Noyce, 2002; Palvia and Vemuri, 2002). Initially, B2B was used almost exclusively by large organizations to buy and sell industrial outputs and/or inputs. More recently B2B has expanded to small and medium sized enterprises, SMEs, who can buy and/or sell products/services directly, Mayer-Guell (2001). B2B transactions tend to be larger in value, more complex, and longer term when compared to B2C transactions with the average B2B transaction being worth \$75,000.00 while the average B2C transaction

is worth \$75.00 (Freeman, 2001). Typical B2B transactions involve order management, credit management and the establishment of trade terms, product delivery and billing, invoice approval, payment, and the management of information for the entire process, Domaracki (2001). Noyce (2002) discusses collaboration as the underlying principle for B2B. The companies chosen as mini-cases for this study meet the basic definition of B2B with their e-commerce ventures as both are selling services over the Internet to other business organizations. Additionally, both provide quotes and the ability to negotiate pricing over the Internet and both are attempting to establish relationships with their buyers.

This chapter proposes a set of five infrastructure success factor groups for SMEs that are starting e-commerce ventures. Tetteh and Burn's (2002) define SMEs as firms with less than 500 employees. This is further broken down into micro companies, those with less than five employees, small companies, those with from five to 20 employees, and medium companies, and those between 20 and 500 employees. Infrastructure is the underlying foundation of networks, hardware, software, skills, processes, and resources that must exist before an organization can build e-commerce applications. Infrastructure may be internal and/or external to the organization.

Success factors were determined through a review of the literature. Inhibitors and obstacles to success are used to identify what is needed for infrastructure to support successful implementation of e-commerce ventures. Literature pertaining to developing countries was used to ensure the infrastructure success factors are relevant to conditions in those countries. Finally, surveys of B2B e-commerce participants were used to rate the importance of the success factors.

The chapter first presents the literature review used to build the research model. The model is then presented followed by the methodology. This is followed by the results of the survey used to determine the importance of the success factors.

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