Chapter 1.11
E–Com Supply Chain and SMEs

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ABSTRACT

This chapter considers the perspective of small and medium-sized enterprises (SMEs) in supply chains. It starts with an overview of the important role of SMEs in national and world economies. Following this is an overview of supply chains, information and communication technologies, and e-business. Both opportunities and challenges for supply chains in general and SMEs in particular are considered, and conclusions drawn. The major contribution of the chapter is in providing an extensive overview of the literature as it relates to information and communication technologies, supply chain management, and SMEs, providing researchers and practitioners with a starting point to look for further information as needed.

INTRODUCTION

This chapter presents a modest overview of the considerable literature covering supply chain management (SCM), information and communication technologies (ICTs), e-commerce, and small and medium-sized enterprises (SMEs). The reviewed papers include the perspectives of all sized firms. Since large firms have led in SCM, and continue to do so, much can be learned from their experiences and their influence over other chain members. The literature on SCM is vast, so only a few representative papers are reviewed. There is much less literature dealing with SMEs; hence this coverage is fuller. Readers are encouraged to go to the referenced articles for more information, and to future articles that cite these if the development of a particular area is of interest.

Only in the past decade has the SME perspective of SCM been seriously considered, with both theoretical and empirical research published. The SME SCM empirical literature now covers many individual countries, including Canada (Archer, Wang, & Kang, 2003; Canadian E-Business Initiative, 2004; Raymond, Bergeron, & Blili, 2005), Germany (Berlak & Weber, 2004), South Africa (Badenhorst-Weiss, Fourie, & Nel, 2004), Taiwan (Chou, Hsu, Yeh, & Ho, 2005; Wang, Chang, & Heng, 2004), the UK (Azumah, Koh, & Maguire, 2005; Levy & Powell, 2003; Tucker & Lafferty, 2004; Wynarczyk & Watson, 2005), and the United States (Arend & Wisner, 2005; Levenburg, 2005). International comparisons have been completed

by a few researchers. Beck, Wigand, and Konig (2005) compared European countries (France, Germany, Denmark) and the United States. Johnston and Wright (2004) compared Canada, Mexico, China, and Japan. There is a slight bias in the literature towards manufacturing over other sectors (such as retail/wholesale, finance, service) because manufacturing has historically controlled many supply chains. Today this control is shifting, with retailers (such as Wal-Mart) often having greater chain influence.

This chapter starts with a review of the role of SMEs in national and world economies, and then considers SCM in business today, including the major improvements facilitated by ICTs. Following this, opportunities and challenges at both the general chain and SME levels are considered. Finally, conclusions are drawn and areas for future research suggested.

SMEs in National and World Economy

The definition of what constitutes a micro, small, or medium-sized business varies from country to country, and even between government departments and programs within a country. One common segmentation approach uses number of employees—micro (or very small) businesses having less than five employees, small businesses having 100 or fewer employees, and medium-sized firms having 101-499 employees. A variation on this would have the employee limit set at 250 for small businesses. Another segmentation method uses sales volumes and is based on the type of firm (such as manufacturing, wholesale, retail, service). In all cases, only independently owned and operated firms are included (i.e., small branches and subsidiaries of large businesses are excluded).

In Canada, small firms (those with fewer than 100 employees) make up more than 97% of goods-producing employer businesses and almost 98% of all service-producing employer businesses (Industry Canada, 2005). For the U.S.,

small firms represent about 99.7% of all employer firms, employ half of the private workforce, have generated 75% of the net new jobs added to the U.S. economy, represent 97% of all U.S. exporters, and create more than 50% of the non-farm, private gross domestic product (U.S. Small Business Administration, 2006). At the start of 2004, within the UK, 99.9% of all enterprises were small (0 to 49 employees) or medium (50 to 249 employees), employing some 58.5% of the private sector workforce (some 12 million people), and contributing to more than 50% of the national GDP (Small Business Service, 2006). Within Europe (28 countries of the European Economic Area plus candidate countries to the European Union) in 2003 there were some 25.3 million non-primary private enterprises, of which 99.8% were craft or small and medium-sized (European Commission, 2006). In June 2004, 99 % of Australian employing businesses were SMEs (Australian Bureau of Statistics, 2004; their definition of a small business is having less than 20 employees, with a medium-sized one having fewer than 200). And in Latin America and Asia, as many as 99% of all firms are SMEs (Johnston & Wright, 2004).

With such a large number of SMEs, there are significant differences when one looks at things like profitability, industry sector, size, adoption and use of ICTs, and so forth. Many studies look at SMEs as a group (sometimes segmenting by industry sector); this can mask significant underlying differences. Similarly, looking at acceptance and use of new technology systems without considering innovators, early and late adaptors can result in 'average' results that do not reflect the full range of experiences. An exception to this approach is Levenburg (2005), who compared IT adoption for micro, small, and medium-sized firms.

Typical advantages attributed to SMEs include being able to service small markets, having a quick reaction time to changes in market conditions (both organizational and managerial flexibility), innovativeness, closeness to their customers (with a trusting relationship), and a bias for action. On

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