Chapter 6.15
E–Business in Supply Chain Management

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ABSTRACT

E-business is concerned with the use of the Internet to link companies with their suppliers, customers and other trading partners. As a business concept, it has evolved significantly since its introduction in the 1990's in parallel with the rapid rate of development of information technology (IT) during this period. Supply chain management (SCM) is fundamentally concerned with integration of activities both with and between organisations. IT plays a crucial role in SCM as a key enabler of supply chain integration (SCI). This chapter sets out the role of e-business concepts in the context of the supply chain challenges faced by firms. It specifically explores the role of e-procurement as an example of how e-business concepts have been applied to one key SCM activity, namely purchasing and procurement. In this context, the chapter examines the nature and evolution of e-marketplaces and goes on to identify key adoption drivers and benefits based on recent research. This research identifies key adoption drivers and benefits but also recognises that there are many barriers that ongoing research needs to address if the potential of e-business is to be fulfilled.

INTRODUCTION

In the past ten years, e-business, as an overarching business concept, has received increasing attention from academics and practitioners alike. The term 'e-business' was introduced by IBM in 1997. In its origins it is defined as "the transformation of key business processes through the use of Internet technologies" (IBM et al., 2000, p.1). Amor (2000) expands the definition by describing it as a secured, flexible and integrated approach in order to offer various companies values through the combination of systems and procedures and so being able to manage the core business procedures with the simplicity and penetration of Internet technology.

These two definitions of e-business both refer to using the Internet to link with customers, suppliers and other associated partners. However, the term also implies the transformation of existing business processes into more efficient ones. E-business has generally been pioneered by information technology (IT) companies, where demand is constantly changing and products have very short product life cycles and short order-to-delivery times as a result. Organisations successfully engaging in e-business are able to convert data from their back-end systems into a common readable format and thus are able to share information and conduct electronic transactions with their business partners via the Internet. It also encompasses the adoption of innovative business concepts, such as dynamic pricing through auctions/reverse auctions, co-opetition via purchasing consortia and direct online sales to customers. E-Commerce can be regarded as a subset of e-business. While e-business refers to the whole spectrum of online information exchanges, e-Commerce only encompasses online transactions.

The power and properties of information and communication technology (ICT) can be leveraged in several ways across functional domains, with online selling to customers constituting only a fraction of the potential possibilities engendered by e-business (Wu, Mahajan and Balasubramanian, 2001). Companies are increasingly incorporating e-business concepts as an integral part into their strategy in order to achieve competitive advantage. In particular, vertical Business-to-Business (B2B) applications and systems have enabled companies to interact in a dynamic, innovative and real-time environment and, as such, allow superior supply network integration.

This chapter describes and critically assesses developments in e-business that have impacted supply network integration strategies. It starts with a summary of supply chain management (SCM) definitions as a proper understanding of the concept of SCM is a critical component in determining appropriate e-business applications and systems. SCM is recognised as a strategic weapon, by which business operations can be streamlined and overall competitiveness enhanced. It is widely accepted that a large proportion of the total cost base of companies is tied up in the supply chain. For example, Presutti (2003) estimated that 70% of a firm's sales revenues are spent on SC related activities. Supply chain integration (SCI) plays a critical role insofar it represents the extent to which all activities within an organisation, as well as the activities of its suppliers, customers and other supply chain members, are linked and assimilated (Narasimhan and Jayaram, 1998). The chapter goes on to explore the role of e-procurement as an example of how e-business concepts have been applied to one key SCM activity, namely purchasing and procurement. B2B e-marketplaces represent a recent innovative development, which has been hypothesised to optimise procurement processes and to add significant value in organisations' supply chains In this context, the chapter examines the nature and evolution of e-marketplaces and goes on to identify key adoption drivers and benefits based on recent research. Based on the foregoing some future research directions are proposed and a number of key conclusions drawn.

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