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Chapter VII

Strategic Alliances of Information Technology Among Supply Chain Channel Members

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Abstract

This chapter explores novel ways of improving flexibility, responsiveness, and competitiveness via strategic information technology (IT) alliances among channel members in a supply chain network. To gain competitiveness, firms have to constantly update their operational strategies and information technologies through collaborative efforts of a “network” of supply chain members rather than the efforts of an individual firm. In sum, the foci of this chapter are: (1) an overview of supply chain management (SCM) issues and problems, (2) supply chain coordination and integration, (3) the latest IT applications for improved supply chain performance and coordination, and (4) strategic IT alliances. This chapter concludes with a discussion of business implications and recommendations of future research.

Introduction

Supply chain management (SCM), characterized by interorganizational coordination (Hill & Scudder, 2002), deals with how each company in a supply chain coordinates and cooperates with its business partners. Along the supply chain, most business activities are integrated for effectively supplying products and services to customers via a continuous, seamless flow. Drawing on the concepts of value chain and value system (Porter, 1985), SCM inherits the viewpoint of "process." In a value system, simply a series of integrated processes is insufficient to support a supply chain and offer fully synchronized operations of all supply chain partners (Williamson, Harrison, & Jordan, 2004).

Recently, it has been realized that information technology (IT) plays an important role in supporting systematic integration and synchronization by providing automatic information flows throughout the entire supply chain. More and more SCM researchers have emphasized the need to embrace the enabling information technologies and explore the essential capabilities of effective information management for supply chain integration (Dai & Kauffman, 2002a). Kopczak and Johnson (2003) stated that the synchronization in a value system required a sophisticated information system (IS) to foster real-time information processing and sharing, coordination, and decision making by the entire supply chain. In line with Kopczak and Johnson's research, other researchers (Dai & Kauffman, 2002b; Gunasekaran & Ngai, 2004) have utilized a systematic study to classify the landscape of emerging online business-to-business (B2B) marketplaces.

In addition, Internet technology is then conceived as an enabling tool for effective integration of the information-intensive SCM processes via ubiquitous availability of timely information (Boyson, Corsi, & Verbraeck, 2003). Information transfer via Internet facilitates more interactive partnerships in multi-directions as opposed to the traditionally linear movement of information within a supply chain (Boyson et al., 2003). This information sharing from multiple directions has boosted the power of process integration and synchronization as well as effective collaboration among the supply chain members.

The remainder of this chapter is organized as follows. First, an overview of issues and problems existing in SCM (such as free-riding phenomenon, negative externalities, and bullwhip effects) is presented. Next, it describes the importance of supply chain coordination and integration, followed by a discussion of the latest IT applications that improve supply chain performance and coordination. The following sections focus on (1) the importance of supply chain portal (SCP) in term of e-collaboration between firms, and (2) the "spillover" effect of IT investments.

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