Business-to-Business E-Commerce: A Transition Model

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Abstract

The creation of Internet-based companies is changing the way business is being carried out and increasing the pressure on traditional firms, which now need to adapt to the new challenges brought about by the so-called digital economy. Successful electronic commerce activities depend on the partners involved in the product or service being delivered. Firms able to communicate with their partners electronically for procurement, sales, or supply chain management have become what many call clicks-and-mortar companies.

An empirically based technological model that helps organizations understand the requirements of moving towards the seamless integration of intra- and inter-organizational processes is proposed. This five-wave transitional model accompanies key decision-makers through progressive steps that correspond to different business-to-business e-commerce needs and specifications. As organizations move along these technological waves, we can witness the gradual opening-up of new opportunities for carrying out business. This paper presents the model, its requirements and its technological and organizational underpinnings. The model is illustrated with examples from organizations in a major industrial sector.

1. Introduction

At the dawn of this new millennium, we are finally starting to witness the exponential growth of electronic commerce (e-commerce) that most specialists have been forecasting for the last few years. It is clear that the diffusion of electronic commerce will persist, and indeed accelerate, in the years to come [4]. Five of the largest North American research firms have provided forecasts of the projected growth of Business-to-Business e-commerce (see appendix 1). As for the definition of “electronic commerce”, there are several and they differ considerably. The OECD tackled the issue in its e-commerce work program initiative [22] and came up with the following: “Electronic commerce refers generally to commercial transactions, involving both organizations and individuals, that are based upon the processing and transmission of digitized data, including text, sound and visual images and that are carried out over open networks or closed networks that have a gateway onto an open network” [21].

Elsewhere, the Japanese Ministry of International Trade and Industry (MITI), which has been a strong promoter of supply chain integration, defines electronic commerce as “the conducting of commercial transactions (the exchange of merchandise, services, information, and/or money between suppliers and receivers for the commercial transfer of goods between economic actors) through electronic mediation using Internet technology” [20].

Clearly, electronic commerce facilitates the exchange of information by developing stronger buyer-supplier relationships. Suppliers are no longer seen as potential competitors but as partners [23]. Bakos and Brynjolfsson discuss the value-adding partnerships that have emerged with the new information technologies. These collaborations favor outsourcing to a smaller number of faithful suppliers [2]. Indeed, Collins and Bechler conclude in their study that the outsourcing of manufacturing has become a competitive imperative and is now a strategic choice for most organizations [7]. Furthermore, despite the increasing need for an integrated and flexible supply chain where the focus has shifted from push (forecast-driven) management to pull (demand-driven) management, long-term partnerships between manufacturers and suppliers have been more beneficial than arm’s-length relationships in terms of quality, time to market, and product development [7, 11, 12, 13, 14]. The label Supply Chain Management (SCM) is currently being used to designate these activities: “It integrates planning and balances supply and demand across the entire supply chain -- it ties suppliers and customers together in one concurrent business process that focuses on the ultimate customer” [24].