

Enhancing Competitiveness of B2B and B2C E-Commerce

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INTRODUCTION

A framework that is often used to describe the transformation of society relates to the percentage of people involved in or impacted by a given paradigm at some point in time. Even though some of these paradigms co-exist at a given point in time, one of them tends to dominate and exert considerable influence on the others. Several authors have described such evolution in different contexts. For example, Fitzsimmons and Fitzsimmons (2004) suggest that societies have undergone the following transformation, one leading to the next in succession: agrarian, manufacturing, service, and information. Since its introduction a little over a decade ago, the Internet, which exemplifies the leap into the information age, has had a profound impact on many areas of human endeavor, indeed, far more than had been imagined or anticipated. This impact on society is apparent through its widespread use in government, education, medicine, engineering, as well as in business. Considering the number of people involved and the dollar amount of sales transacted over the Internet, it seems reasonable to infer that it has had the greatest impact in business during the past millennium. The Internet continues to play a significant role in making enterprises to be more competitive.

The progression of the information age is underscored by projections about its growth and impact on the economies of many countries. For example, Forrester and Gartner research groups project unprecedented growth in Internet-related business transactions globally in the coming years. In particular, Gartner estimated that worldwide B2B e-commerce will surpass 7.3 trillion dollars by 2004 (Noyce, 2002). It is interesting to observe that the order of growth in electronic transactions is similar to the projected growth in computer processing speed. Further, technological advancements in the computer and communication industries have led to reduced prices of computers and Internet service, respectively. These developments are playing a significant role in facilitating the use of the Internet for commerce. For example, several polls

indicate that more than half of Americans own personal computers. While not all people who own computers have Internet connectivity at home, many gain access through secondary means such as public libraries and work computers. University of California Los Angeles (UCLA) Internet-related studies indicate that over 70% of Americans are online (Lebo & Wolpert, 2004; UCLA, 2001). Also, Barnes (2003) reports that, as of fall 2002, estimates for people around the world who use the Internet were about 600 million, about 10 percent of the world population.

This article discusses how firms are using Business-to-Business (B2B) and Business-to-Consumer (B2C) e-commerce strategies to gain competitive advantage. Several related initiatives that firms can avail themselves of in order to be more effective will also be briefly examined. The article is organized as follows. First, we provide some background by describing some issues that have been identified in the literature concerning the subject. Next, we discuss the importance of B2B and B2C e-commerce to firms and their clientele. We then examine the future of B2B and B2C e-commerce initiatives as potent weapons and how they should be deployed to foster success. Finally, we summarize and conclude with our final thoughts on B2B and B2C e-commerce.

BACKGROUND

Several models of electronic commerce have been developed to represent or formalize the various practices of various entities (Aigbedo, 2004; Barua, Prabhudev, Winston, & Yin, 2001; Mahadevan, 2000). Also, Kaplan and Sawhney (2000) present a two-by-two matrix that describes activities among businesses along two dimensions: "What businesses buy" (operating inputs or manufacturing inputs) and "How businesses buy" (systematic sourcing or spot sourcing). Under this classification scheme, Internet exchanges such as e-STEEL fall within the manufacturing inputs/spot sourcing quadrant.

From a definitional perspective, electronic commerce includes Internet-based and non-Internet-based means of transmitting business information. However, we restrict our discussion to Internet-based e-commerce because of its ubiquity and potential for growth in the coming years. The principal users of Internet-based e-commerce can be classified as Consumers, Businesses, and Governments, with interactions occurring among pairs of these classes or between a class and its like. The two major areas that have experienced the most growth and that are projected to capture a significant proportion of Internet use for commerce are Business-to-Business (B2B) and Business-to-Consumer (B2C) e-commerce. Now let us see two examples of these transactions. When an Original Equipment Manufacturer places orders for parts from its suppliers through the supplier's Web site, the parties are engaged in B2B e-commerce. On the other hand, when a consumer purchases a book through an online bookstore such as Barnes and Nobles' Web site, the interaction between this customer and the company is B2C e-commerce.

Amazon.com was one of the firms that blazed the trail in e-commerce, in general, and B2C e-commerce, in particular, by selling books through its Web site. Since its inception, it has expanded its offerings to include a wide variety of items such as compact disks, electronic appliances, apparel, and accessories. Following Amazon's success, many "brick-and-mortar" firms have either fully or partially transferred their operations online. For example, Wal-Mart, the retail giant, now also offers for sale through its Web site many items that it sells through its conventional stores (Wal-Mart, 2004). Also, the Internet has greatly facilitated Dell Computer's direct business model, which entails sale of computers directly to consumers, as the company generates a significant proportion of its sales through its Web site. In 1999, Dell Computer earned over 1 billion dollars through its B2C e-commerce initiative (Chopra & Van Mieghem, 2000).

So far, B2C e-commerce appears to have had the greatest impact from the point of view of the number of people directly affected. However, as Kenjale and Phatak (2003), for example, observe, B2B e-commerce has a greater potential as far as number of transactions and dollar volumes are concerned. A case in point is DaimlerChrysler's 2001 purchase of highly engineered parts for two future car models through Covisint for more than 3 billion dollars under a B2B reverse auction framework (Konicki, 2001).

From the foregoing discussions, it would seem that it is only well-known, large corporations that are engaged in e-commerce. However, this is not the case, as many companies, including small ones, are transforming part or

all of their operations to the virtual environment. Chen, Haney, Pandzik, Spigarelli, and Jesseman (2003) report on the initiatives taken by a small firm in implementing e-commerce. They also describe some critical success factors that need to be followed by such companies. These include gradual transformation into e-commerce (especially considering cost implications and unavailability of technical expertise in small firms), proper allocation of resources, outsourcing of critical startup services, modification of business practices, collection and analysis of customer-related data to help monitor buying patterns, thus facilitating promotions and better service offerings.

Just as understanding consumer behavior has been the focus of traditional marketing research for decades, it is extremely important to understand it in the context of e-commerce as well. By synthesizing several published work in this respect, Saeed, Hwang, and Yi (2003) proposed an integrative framework for understanding the basic factors that influence customer behavior in e-commerce environments. They identified four predictor variables: system quality (relates primarily to web design and technological features that facilitate the customer's shopping experience), information quality (relates primarily to content accuracy, relevance, and reliability), service quality (relates to the customer's perceptions of the experience), and vendor and channel characteristics (e.g., size and reputation).

B2B E-COMMERCE INITIATIVES

Companies are finding the Internet a very useful tool for facilitating transactions among themselves. It is gradually replacing traditional methods such as facsimile and Electronic Data Interchange (EDI). Although B2C applications spurred the use of the Internet for commerce, a far greater volume of transactions occurs among companies. There is much more to transactions among companies than simply buying and selling, which are central to B2C applications. Customer relationship management, exchange of product and production-related information, and collaboration in product design and development are some of the areas where B2B e-commerce is deployed. More and more companies now understand that they have reached their limits in terms of improvements in performance and profits that they can achieve by themselves. Therefore, in recent years we have seen increased emphasis on supply chain management, as companies seek to work more closely with their partners on the downstream side of the chain (towards the customer) and the upstream side of the chain (towards the parts suppliers). In the retail industry, for example, Wal-Mart's tremendous success in

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