E–Commerce Models and Consumer Concerns

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INTRODUCTION

Electronic commerce (e-commerce) refers generally to all forms of buying, selling, transforing, exchanging products, services, or information over computer networks (Carter, 2002). Business activities such as communication, business transactions, and data transfer, including both organizations and individual, are conducted online. The "electronic" or "e" in e-commerce or e-business refers to the technology/systems; the "commerce" refers to the traditional business models. Things like funds transfer, order booking, data interchange, automated inventory management, and online marketing all come under the purview of e-commerce (Erber, Klaus, & Voigt, 2001). For instance, people and organizations can shop around the Web to find the products, prices, and services that suit them best and order and pay for items without a physical presence of either the shopper or the merchandise.

E-commerce is the largest growth area of today's economy and is likely to remain so for many years to come. It has grown to manage significant portions of both business-to-business (B2B) and business-to-consumer (B2C) transactions in just a few years. In fact, each year both its volume and percentage of all business transactions keeps increasing dramatically. The idea of e-commerce is all about using the Internet to do business better and faster. It is about giving customers controlled access to vendors' computer systems and letting people serve themselves. It is about committing companies to a serious online effort and integrating their Web sites with the heart of business.

BACKGROUND

During the 1960s, the emergence of electronic data interchange (EDI) allowed companies to perform electronic dealings with each other. A research project of Advanced Research Projects Agency (ARPA) funded by the U.S. Department of Defense created a packet switching network known as the ARPANET.

According to Bach and Erber (2001), Timothy Berners-Lee, a British physicist and computer scientist, developed the World Wide Web (WWW) in order to replace file transfer as the application used for most Internet traffic. In the early 1980s, a group of academic computer scientists formed the Computer Science NETwork, which used TCP/IP protocols. Other government agencies extended the role of TCP/IP by applying it to their networks.

Then in the 1980s, as large commercial companies began to use TCP/IP to build private Internets, ARPA investigated the transmission of multimedia—audio, video, and graphics—across the Internet. Restrictions on who could use the Internet were lifted by the U.S. government, and commercialization of the Internet mushroomed. The Internet quickly expanded to include universities, companies of all sizes, libraries, public and private schools, local and state governments, individuals, and families.

During 1995, two of the biggest names in e-commerce were launched—Amazon.com and eBay.com (Hiser, Lanka, Li, & Oliver, 2004). The Internet plays an important role in today's business. Over one-third of U.S. residents use the Internet and nearly 40% use it as a business medium (Lee, Lee, & Park, 2006). As the percentages continue to increase, so does the need to understand why and how people choose to adopt e-commerce instead of off-line channels; this would help researchers and e-commerce providers get a better understanding of how to facilitate future adoptions of e-commerce.

MAIN FOCUS

The Variety of E-Commerce Methods

Choosing the best type of e-commerce method can become quite complicated for a company. As mentioned, the most typical types of applications currently running in the WWW are: business-to-business (B2B), business-to-consumer (B2C), consumer-to-consumer (C2C),

mobile commerce (m-commerce), and peer-to-peer (P2P) (Reid & Sanders, 2007). With so many models to choose from, a company must be aware of the particular impacts of each model and the selection criteria for choosing the best model for that company.

Business-to-Business (B2B) E-Commerce

In B2B e-commerce, company A sells to company B, or vice versa, products and/or services. Fellenstein and Wood (2000) explain that a key economic area that is driving the global economy to grow is the B2B market segment. They classified this segment into three categories: (1) online wholesaling, which is businesses selling products and services to other businesses throughout the Internet; (2) Internet corporate purchasing, which represents various public and private sector enterprises doing online purchases of office materials, manufacturing supplies, and other supplies using the corporate intranet; and (3) supply chain trading over the Internet, which involves businesses working together by using the Internet to automate the transfer of goods for production and distribution.

There are a number of basic economic propositions underlying B2B applications, such as content aggregators, auctions/exchanges, and B2B specialists. *Content aggregators* help the buyers in fragmented markets to select the products by providing up-to-the-minute price and product information and single contact point for services. This focuses on bringing together the buyers and sellers who are in the same industry but trade in a variety of products or services. In *auctions*, auctioneers offer a channel for sellers to get rid of damaged or surplus goods and services at the possible prices, and buyers to get bargain prices. Finally, *B2B specialists* are concerned less with specific goods and services and more with the process of setting up electronic markets.

In line with Vulkan (2003), there are some advantages for automating the purchasing process. Three advantages are: (1) increased effeciency; (2) cost savings; and (3) better control. First and foremost, business e-commerce increases efficiency. For example, most electronic procurement systems are capable of automatic searches, comparing attributes such as price and quantity. Vulkan explains that it is useful to think of business e-commerce as a natural extension of the automation process that started in the 1970s. First, databases and back office operations were automated, then came front office automation, and now it is the interactions between organizations being automated. Second, and along the same lines, there are substantial cost savings from employing a business e-commerce system. It is significantly cheaper than using human employees to do the same work. To set up an e-procurement system is expensive but once it is in place the running cost is very low, so over time the cost savings increases. Finally, an e-procurement system not only reduces the cost of purchasing, but also allows an organization to take better control over its spending strategies. That is why many firms continue to buy at the same price from the same suppliers because it is too costly and difficult to be constantly searching for new ones and/or re-negotiating existing agreements.

Business-to-Consumer (B2C) E-Commerce

In B2C e-commerce, the most familiar of e-commerce business models, businesses sell their products and services to customers via the Internet (Zabel & Monahedi-Lankarani, 2002). The B2C model includes: (a) auctions; (b) online stores; and (c) online services. Electronic auctions offer an electronic implementation of the bidding mechanism found in traditional live auctions. These actions also offer integration of the bidding process with contracting, payments, and delivery. It gives the participants convenience, as a bidder can stay at their home or office and still participate in the bidding just as in traditional auctions. Online auctions provide flexibility and allow the bidding to last days or weeks, which offer more flexibility to the bidders. Online stores refer to marketing of a company's products through the Web (Fellenstein & Wood, 2000). It can either be done by promoting a company and its products and services or sell its products and services through this virtual store. One of the best examples is Amazon.com, which started selling books online and graduallly has extended to other product categories. Finally, another area where companies can exploit the Internet is through online services. Many companies provide customer services online; one good example might be the service sector banking and stock trading. Companies like eTrade.com have brought the ease of trading stocks to customers' PCs.

In theory (Reid & Sanders, 2007), we have different models that online businesses use to generate revenues. For example, the *advertising revenue model*, where a Web site provides information on products and

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