

THE CHANGING ROLE OF MIDDLEMEN IN THE PC INDUSTRY: NEW E-DISTRIBUTION MODELS FOR THE MARKETING CLASSROOM

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ABSTRACT

Channels of distribution evolve over time in response to changes in the business environment. In the new e-Commerce environment new business models have emerged to create greater value within the supply chain and to the end consumer. The internet is now the fourth marketing channel system and is altering the fundamental processes of how goods and services are delivered. This article presents an overview of the changing distribution system in the personal computer (PC) industry. The purpose of this discussion is to provide a framework for marketing educators to introduce the new e-distribution models in the marketing classroom.

INTRODUCTION

The growth in e-Commerce activities has surpassed the expectations of many business analysts. In the U.S. alone, online retail sales totaling \$2.4 billion in 1997, grew to \$20 billion in 1999, and is expected to reach \$108 billion by 2003 (Kleindl, 2001). An additional 62 million U.S. households are likely to join the internet community by 2002 indicating that the internet has diffused beyond early adopters to the mass market (State of the Internet, 1999). In all this growth, new cybermediaries have entered the electronic marketplace to facilitate the exchange between sellers and buyers, where buyers may be households (B2C), businesses (B2B) or even consumer to consumer (C2C).

In the new e-Commerce environment, the internet has become the fourth channel system, adding to the traditional channels of face-to-face, catalog, and telephone sales (Forrester Research, 1999). In this new channel system, the power has shifted from the seller to the buyer. Consumers now have access to more information than ever before in the pre-purchase stage of the

decision process. This information and wider choice of products and services have enabled them to place new demands on the traditional channel intermediaries. In many instances, consumers can go directly to producers without the need for traditional retailers, wholesalers and, in the case of intangibles, distributors.

WEB-BASED BUSINESS MODELS

Business models are defined as an architecture for the product, service, and information flows which includes a description of the various economic agents and their roles (Rappa, 1999). Underlying each of these business models, is the basic idea of the "value chain." According to Michael Porter (Selz, 1999) a firm's value chain is embedded in a complex stream of activities that connects primary suppliers and principal customers to other upstream and downstream businesses. In the physical world, the value chain can be viewed as a series of linear sub-processes that link raw materials, production, distribution, marketing, and sales to the buyer in a market *place* environment. In the e-Commerce environment, the sub-processes operate in a market *space* environment through a series of networks that occur simultaneously. This virtual value chain, a term coined by Sviokla (Collin, 1999), is likened more to a matrix or web that is accessible at each point and freely configurable through a series of networks. These networks can be used to connect the firm's internal processes (intranet), external processes (extranets) or both. In Selz's (1999) dissertation, the value web broker is introduced as part of the virtual value chain. Value webs are transitory in nature and are centered on the product or value broker, a typical intermediary function. The role of the value web broker is far more extensive than simply bringing sellers and buyers together.

The formation of this new internet economy, or digital marketplace, has resulted in an accelerated evolution of new business models. The many business models are classified by Timmers (1998) based on three elements: Porter's value chain; interaction patterns which can be structured as 1-to-1, 1-to-many, many-to-1 and many-to-many; and value chain reconstruction. Timmers' framework provides an excellent point of discussion for identifying elements of value creation among businesses that are familiar to marketing students. Some suggested businesses to compare include travel agencies, car dealerships, books and music retailers, and personal computer sales.

THE IDR CYCLE

The rapid growth of the internet economy is forcing companies to adapt to the new digital market *space* environment, especially in those industries where a critical inefficiency in distribution and sales exists (Digital Marketplaces, 1999). Virtual distributors have emerged to either replace or improve some portion of the existing distribution channel, and then thrive in fragmented markets that lack dominant suppliers and buyers. In the virtual market *space* environment, the new cybermediaries have been able to lower costs, provide more choice and information, and respond to customer needs in a more timely fashion.

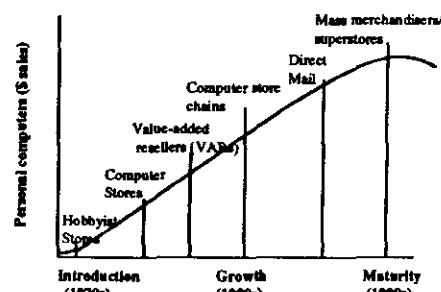
Does this mean that traditional intermediaries are at the point of extinction? This is an important discussion point to bring forth in the marketing classroom. Students can examine some of the industries (e.g. travel, retail, financial) to determine whether intermediaries have been eliminated or have merely improved their "value-added" processes in a digital environment. Chircu and Kauffman (1999) propose that the transformation of any industry structure in the internet economy is likely to go through the intermediation-disintermediation-reintermediation (IDR) cycle. The IDR cycle will occur because new technologies are forcing change in the relationships among buyers, suppliers, and middlemen. Intermediation occurs when a firm begins as a middleman between two industry players (e.g., buyer-supplier, buyer-established intermediary or established intermediary-

supplier). Disintermediation occurs when an established middleman is pushed out of the value chain. Reintermediation occurs when a once disintermediated player is able to re-establish itself as an intermediary traditional

THE IDR CYCLE IN THE PC INDUSTRY

The personal computer (PC) industry provides a good example of how the IDR cycle evolves. The PC market is credited as one of the first industries to use revolutionary new ways to sell products through new process technologies. Before 1997, PCs had a market penetration rate in U.S. households of 35 percent. When the sub-\$1,000 PC market emerged in 1997, the expansion of the U.S. personal computer market quickly reached a penetration level of 43 percent. The sub-\$1,000 price point enabled many households to purchase a high-performance computer at a relatively low price (Industry Report, 2000). This price drop was a great opportunity for many U.S. households to purchase a second household computer. The sub-\$1,000 computer has now clearly moved the U.S. market into the maturity stage of the product life cycle. Stephens (2000) estimates the adoption/diffusion rate for PC technologies has now pushed PCs in the maturity stage of the product life cycle. Figure 1 provides a good illustration of the dominant retailers for PCs over the product life cycle.

Figure 1 : Dominant Retail Market for PCs



Source: Barrowitz, Korte, Hardy, and Reddick, 1997. *Marketing*, Irwin-McGraw Hill Publishers

Intermediation Phase

When Apple Computer was first introduced in the 1970s, most of the sales occurred in hobby shops using the traditional channels of distribution. Targeted consumers were primarily innovators and early adopters who were technology-savvy and educated. As a

new technology, personal computers (PCs) were relatively expensive to most consumers so only a few could afford them and even fewer understood the technology. Gradually, more PC manufacturers (competitors) entered the growth stage of the PLC and developed marketing strategies that would further diffuse this product innovation.

Today, the five largest computer manufacturers (Compaq Computer, IBM, Dell Computer, Apple Computer, and Hewlett-Packard) comprise 40 percent of the industry sales volume (Industry Report, 2000). Dell Computer is now the number one PC manufacturer and is credited with developing the direct sales model. In the marketing classroom, it is interesting to discuss the evolution of Dell Computer Corporation to illustrate how internet technologies have enabled Dell to gain cost advantages over its competitors by eliminating the retailer, and linking with key suppliers and key customers. Dell Computer began by selling computers through the use of the telephone, but today it sells primarily online. Business analysts project that by end of 2000, Dell Computer will have close to 100 percent of its sales transacted online (Industry Report, 2000).

Disintermediation Phase

By the time, Dell had entered the PC market, most mass-market consumers and businesses were knowledgeable about computers and were well aware of its capabilities. There was little need to sell through wholesale distributors and retailers to a market of buyers who understood the technology and the various PC configurations. With Dell Computer's direct sales model, wholesalers and retailers were eliminated in an effort to reduce costs and enhance the value to customers. Dell's direct sales business model focused on the customer's desire for speed of delivery, customized products, and low prices as key competitive advantages over the traditional indirect sales channel system.

By 1996, Dell Computers was using information technologies to squeeze time out of all sub-processes in its value chain. This networked series of intranet and extranet

systems linked supplier to manufacturers to customers in such a way that a more efficient marketing system gave Dell shareholders \$1.54 in profits for every new dollar of capital investment in 1997, compared to Compaq, a traditional reseller, who returned only 59 cents on every dollar (Kleindl, 2001).

Reintermediation Phase

Reintermediation of traditional retailers and wholesalers requires the use of internet technologies and a better understanding of what customers consider important when purchasing a product or service. The name of the game is to create better value for the buyer while reducing the costs of the sub-processes in manufacture and distribution of the product. New cybermediaries have emerged to perform transactional, logistical and functional activities. It can be argued that while Dell's direct sales model may have eliminated channel intermediaries in the initial model before the advent of internet technologies, the model actually created opportunities for reintermediation after the internet was introduced. In the virtual value chain, new processes of distributing personal computers to reach the 2nd and 3rd time purchasers emerged. These include such channel members as (Channel Information Services, 2000):

- Build Your Own System (BYOS)--resellers buy computer components and build their own PCs
- Build to Order (BTO)--are programs offered to resellers by distributors where the distributor, rather than the reseller, builds computers to meet specific requirements of reseller's client.
- Distributors--are 2nd tier distributors who stock products from 1st tier vendors for resale to the reseller channel
- Corporate resellers--provide technology products and services to Fortune 1000-class businesses
- Aggregators--large reseller organizations offering franchises to smaller resellers, and distribute 1st tier products to these organization by aggregating their many small orders
- Master Reseller--large national distributors that offer one-stop shopping for all product and technology products and sells to a broad range of resellers

- Value-Added Resellers (VARs)--resellers who provide value by selling computer related products and value-added computer services
- Value-Added Dealers (VADs)--resellers who sell brand name computer related products and provide value-added services with those sales
- Channel Assemblers--are authorized distributors who assemble the PC on behalf of the PC manufacturer.

CONCLUSION

Channel systems evolve over time in response to changes in the business environment and to the changes in consumer behavior. The PC industry is an excellent starting point for introducing the idea of the IDR cycle and how new E-distribution models have evolved to provide added value to suppliers and consumers. As consumers of PCs, marketing students are very familiar with the PC industry and how they behave in the marketplace. Therefore, this industry provides a rich starting point to discuss changing distribution systems and the effect on the other marketing mix elements (product, price, and promotion). As marketing educators, we are obliged to revamp our traditional approach to teaching "channels of distribution" and to rethink of how we can better introduce the new "value web models" now that the internet has emerged to become the fourth distribution channel.

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