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Vol. 53 no. 3 Part 1 (September 2000) pp. 373-384

Electronic Commerce Beyond the "dot com" Boom

Abstract - *The explosion of interest in electronic commerce stemming from commercial use of the Internet triggered high expectations, and accompanying high stock market value for public companies specializing in the delivery of products and services through this channel. However, the boom in the market value of these so–called "dot com" companies appears to be over. This paper examines the factors underlying the fall off in the value of "dot com" companies, focusing on the manner in which fundamental business principles were violated by these firms. In addition, it explores the manner in which business–to–business and business–to–consumer e–commerce can be expected to evolve even though the "dot com" boom is over.*

INTRODUCTION

Electronic commerce, the buying, selling, and exchange of information about products and services over public or private communications networks, has captured the attention of business leaders like no other innovation in recent years. Use of the Internet's World Wide Web as a vehicle for conducting commercial transactions has been particularly appealing, beginning with its introduction in the mid–1990s. It appears that electronic commerce will influence the nature of business, products, and services well into the future.

In contrast, the stock market value of public companies specializing in delivery of products and services via electronic commerce has fallen dramatically in recent months. As a result, a growing number of observers are suggesting that the "boom days" of e–commerce companies are over. Others suggest that the fall off is even threatening the belief some investors, executives, and observers have in the viability of electronic commerce.

The discussion that follows explores the status of so–called boom for e–commerce companies established on the Internet, comparing the characteristics of these typically consumer–oriented companies to the principles of proven business strategy. It also discusses likely developments in e–commerce beyond the boom days of the late 1990s. As will be shown, a new generation of electronic commerce is emerging, in which the ground rules are dramatically different from the first generation.

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Vol. LIII, No. 3, Part 1

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THE "DOT COM" BOOM

The potential of electronic commerce first gripped the attention of businesses when the Internet became available for commercial use in 1994/1995. Seemingly overnight a substantial number of companies were formed for the principal purpose of conducting business over the Internet. Industry jargon included talk of new business models that promised improved value propositions certain to draw customers in the firm and away from traditional competitors already in the marketplace.

Virtually all respected information technology market research firms project impressive revenue streams for electronic commerce in the coming years (Figure 1). Estimates suggest that within the next few years, aggregate annual revenue levels will reach from $1.3 trillion to $4.0 trillion. Widely publicized, these projections fueled great interest among executives, entrepreneurs, and researchers regarding the vast potential of electronic commerce as a key driver of business developments in the years ahead.

In the resulting boom, the potential of e–commerce was promoted vigorously. The boom has been characterized by:

- The formation of a huge number of Internet companies created for commercial purposes, so designated with a ".com" designation in their Internet address (e.g., their URL: http://www.thecompany.com).
- Abundant access to venture capital made available for the purpose of launching Internet companies.
- High market valuations, often above the $1 billion level, established in public exchanges, regardless of whether the company had reached profitability.
- Widespread interest by seasoned executives and entrepreneurs (and new graduates from the top–tier business schools) in launching Internet startup companies focusing on e–commerce.
- Initiatives within most well established, traditional corporations to create Web sites on the Internet suitable for e–commerce.
- Extensive print and broadcast advertising programs by Internet startup companies conceived as a vehicle for building identity and driving buyers to their e–commerce sites.
- Ever–escalating revenue projections for e–commerce companies.

The capabilities of electronic commerce and the establishment of Internet start–up companies have, unfortunately, been intertwined. It will be increasingly important to separate the advantages of electronic commerce from the viability of the start–up firms seeking to participate in e–commerce.

"Dot com" has rapidly been ingrained into the language of business as a short–hand way of identifying companies established to conduct commercial activities on the Internet. To date, the largest array of such companies have focused on consumer sales. These so–called business–to–consumer companies are most often associated with "everyday" products and services, including books and music, travel, entertainment, financial brokerage, toys, and consumer electronics.

A typical "dot com" firm operates only from its online Web site, having neither physical stores nor locations its customers can visit. Its ability to reach customers in vast geographic regions, via the Internet, and to scale up rapidly while not having to deploy working capital in building physical facilities, has been among its most important attributes and a feature attracting investors and entrepreneurs. Thousands of new "dot com" companies have been established every month, most with a vision of generating huge market values after taking the firm public, even

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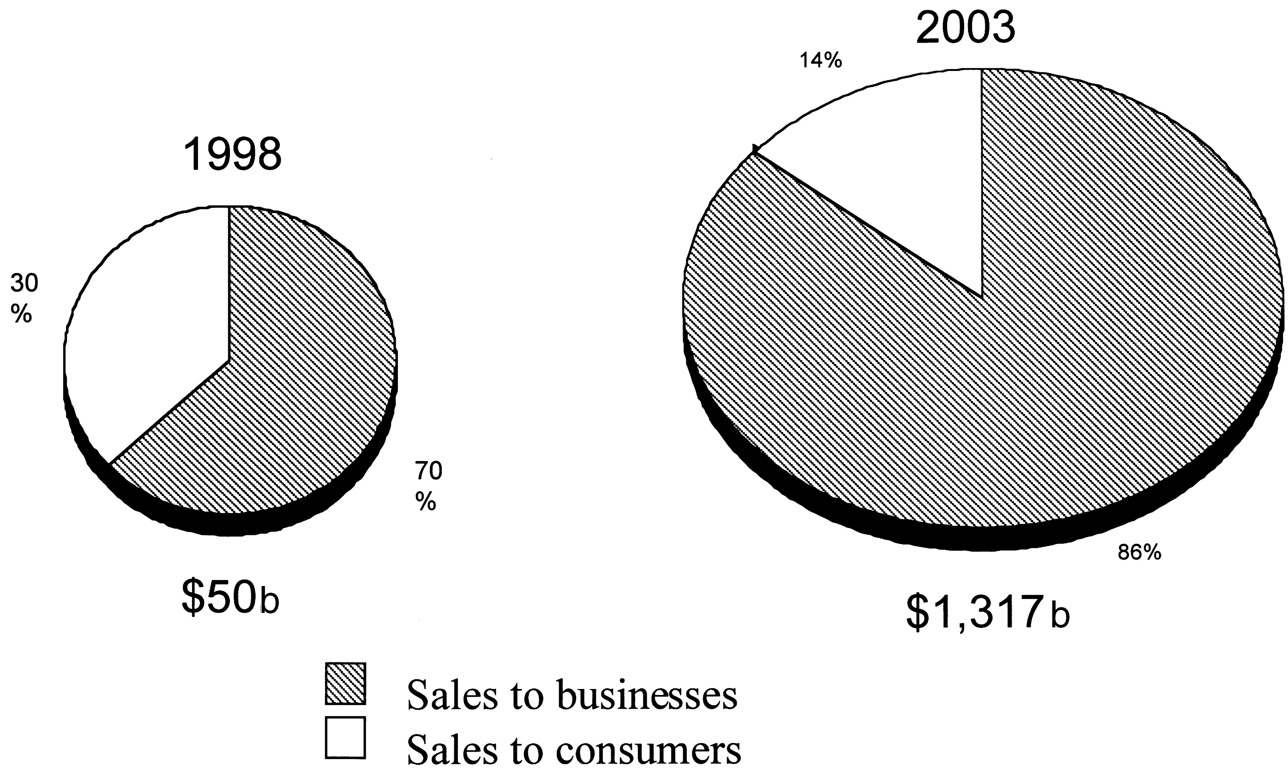
Figure 1. Projected Electronic Commerce Sales Volumes



Source: IDC Internet Commerce Market Model, V5.0, worldwide

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before demonstrating durability or achieving profitability. The boom understandably generated tremendous excitement and speculation throughout the business world.

It appears that the "dot com" boom is now over. For instance, the most widely admired Internet companies have lost tremendous market value in the past months (see Table 1). Moreover, the initial round of Internet funding has come to an end, as venture capital firms are now scrutinizing more carefully the business plans and potential of entrepreneurs seeking first and second round funding.

VIOLATION OF PRINCIPLES

As surprising as it is, the adjustment in "dot com" stocks was predictable from the earliest days of Internet commerce. Yet, entrepreneurs and e–commerce observers have apparently had to relearn five principles that were violated, each the subject matter of basic business school lessons. Surprisingly, these lessons, which would not be easily forgotten in successful traditional businesses, were blatantly discarded in the "dot com" world. They involve business strategy, intellectual capital, brand, market size, and business processes.

Business Strategy

Business begins and ends with strategy. No successful company can be built on the basis of poor strategy, no matter how well it is executed. Similarly, even a good strategy will surely fail when execution is poor.

The well–established principles of strategy state that a business' advantage grows out of the value it creates for its buyers. *Superior* value occurs when firms offer lower prices than competitors for equivalent benefits, or when they provide unique benefits that offset higher prices (Porter, 1985, p. 3).

TABLE 1
CHANGE IN MARKET PRICE ($) OF LEADING "DOT COM" FIRMS

Category	"Dot Com" Firm	1999 high	Jan 2000	May 2000	Change from 1999 High (%)
Content	drkoop.com	45.8	14.9	2.53	–94.47
	Excite@Home	99.0	40.3	17.375	–82.45
	theglobe.com	42.8	7.8	3.1875	–92.54
	theStreet.com	70.1	18.5	6.625	–90.55
e–Tailing	amazon.com	113.0	62.1	55.06	–51.27
	CDnow	24.9	11.9	3.875	–84.46
	drugstore.com	69.0	29.1	8.625	–87.50
	eToys	86.0	20.9	7	–91.86
	Peapod	16.4	10.6	3.25	–80.15
	WebVan	34.0	14.6	6.875	–79.78
Service	Ameritrade	62.8	17.6	14.734	–76.52
	Autobytel	58.0	12.0	6.484	–88.82
	E*Trade	72.3	23.6	20	–72.32
	eBay	234.0	150.5	136.093	–41.84
	EarthWeb	89.0	33.5	14.5	–83.71
	Egghead.com	60.0	13.3	4.562	–92.40
	E–Loan	74.8	14.6	5.218	–93.02
	E–Stamp	44.9	18.0	4.062	–90.95
	Expedia	65.9	35.0	18.625	–71.73
	Net.B@nk	83.0	18.0	10.062	–87.88
	Priceline.com	165.0	63.5	57.9375	–64.89
Software	Ariba	211.0	185.8	76.562	–63.71
	Commerce One	331.0	198.0	56.25	–83.01
	Healtheon	126.2	59.9	19.875	–84.25
	Network Assoc.	57.1	27.2	25.0375	–56.17

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The business models that encapsulate the strategies of many "dot com" firms are price, not value, driven. Despite seller claims of online convenience (e.g., 24 hour ordering or "shop from your living room") buyers apparently do not deem them to equate with value (or the ranks of online buyers would swell). Many customers do not apparently perceive online buying at lower product or service prices, with delivery at a later time, as an attractive proposition.

Furthermore, the potential attraction of discounted pricing often fades when shipping costs and estimated delivery times are incorporated into the buyers' value proposition. During the 1998 and 1999 holiday buying seasons, consumers decided that promised lower prices and other vendor promises did not add the value they had hoped. Companies left many buyers uncertain about delivery. In thousands of instances they did not deliver at all.

The market has spoken, reminding "dot com" developers of this most basic principle: Poor strategy or poor execution (or both) will doom any attempt to build a business.

Intellectual Property

Second, it has been proven in industry after industry that long–term success requires the possession, cultivation, and leveraging of intellectual capital (i.e., knowledge, information, intellectual property, and experience) (Stewart, 1997, p. x). This principle has also been ignored frequently during the "dot com" boom.

The ownership of a catchy Internet Web address (i.e., a "dot com" URL) or the employment of committed employees infused with unlimited energy is not a substitute for intellectual capital. Neither is the offering of commodity–like products or services via an online storefront or service center (especially in the price transparent environment of the Internet). Some companies have developed extensive customer databases or sophisticated customization and personalization technologies, each potentially powerful forms of intellectual capital. Unfortunately, these are the exceptions, for most Internet companies in the consumer segment have not created intellectual property on which to build their business.

Continued operations should not be confused with the development of intellectual property. Many "dot coms" continue to operate with a sizzling "burn rate" (Wolf, 1998). In many instances the only advantage they have, other than committed people infused with unlimited energy, is the cash they acquired from venture capital firms or through initial public stock offerings (IPO). Unless they develop or acquire intellectual capital, they are surely doomed to fail when their financial resources are depleted. The falling market value of many such companies is an open assessment of this observation.

Market Size

The size of the market, or niche, in which the firm seeks to compete must be capable of sustaining the firm's business model, day after day. Moreover, the potential size of the online market may be quite independent of the known size of the traditional market. Traditional buyers will not automatically move online simply because of vendor pricing strategies. At the same time, new customers, who have not been part of the traditional market, may emerge because of the online vendor's presence.

Unfortunately, the market studies of many start–up companies have been either poorly conceived or evaluated unrealistically. In the rush to "dot com" status, boundless optimism has substituted for solid research.

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Brand

Fourth, the firm must have an identity—a brand—that creates visibility in large or unfamiliar markets. Without that visibility, a firm will not be able to generate adequate revenues or long–term durability.

In reality, newly formed "dot coms" can't build a brand on the Internet. Doing so would be counter–intuitive, for start–up firms are unknown and generally do not enjoy surfing (i.e., location–driven "walk–by") traffic.

Amazon, e–Trade, e–Bay, and other well known online firms did not build their brands on the Internet. They were created through traditional print and broadcast advertising and solid identity building programs.

The need to build brands via traditional means explains why so many "dot com" companies have spent huge sums of money on traditional media advertisements. Some firms actually spent more on advertising, in an effort to build brand, than they acquired from their investors (Elliot, 2000).

Many start–up firms have already faded from the e–commerce scene before becoming public firms. They ran out of cash before they built brand, acquired intellectual capital, or stimulated sizeable market for themselves.

Business Processes

Fifth, business processes must work. Otherwise, no business model is sustainable. Business processes are efficient and reliable when they meet both internal operating requirements and customer expectations, doing so in a manner that ensures revenues exceed costs. Too often, "dot com" companies, born in the midst of high impact technology, have placed greater emphasis on their online front door—their Internet commerce site on the World Wide Web—than their back office. Many of their e–commerce sites use white–hot information technology and high–speed servers loaded with applications that excel at real–time order taking or managing electronic shopping carts. Unfortunately, they ignored the back office and so their business processes for tracking, filling, and shipping orders break down quickly.

BEYOND THE BOOM

Electronic commerce will continue to evolve even though the dot–com boom is over. The key question is, "How?" Three key areas are examined in this section, including the future of business–to–consumer commerce, business–to–business e–commerce, and the increasing emergence of e–commerce strategies within established companies.

Business–to–Business Commerce

The diminished value of so many business–to–consumer "dot coms" is creating a tendency for analysts and investors to shift their emphasis to firms focusing on the business–to–business sector. To some extent, this shift is understandable. Researcher estimates suggest that potential revenues for this sector are many times more than for consumer–oriented firms (see Figure 1). Moreover, businesses will continue to seek e–commerce solutions that will aid in addressing pressures to reduce costs, streamline operations, improve cycle times, and make other business improvements. The early experiences of such "blue chip" firms as General Electric (GE) are also influential factors. GE has shown that the savings from Internet based procurement and mandated supplier bidding practices can routinely shave large cost percentages, totaling millions of dollars in savings, from the every day supply chain.

The dominant business model that has emerged is the online business–to–business exchange (Figure 2). Each exchange

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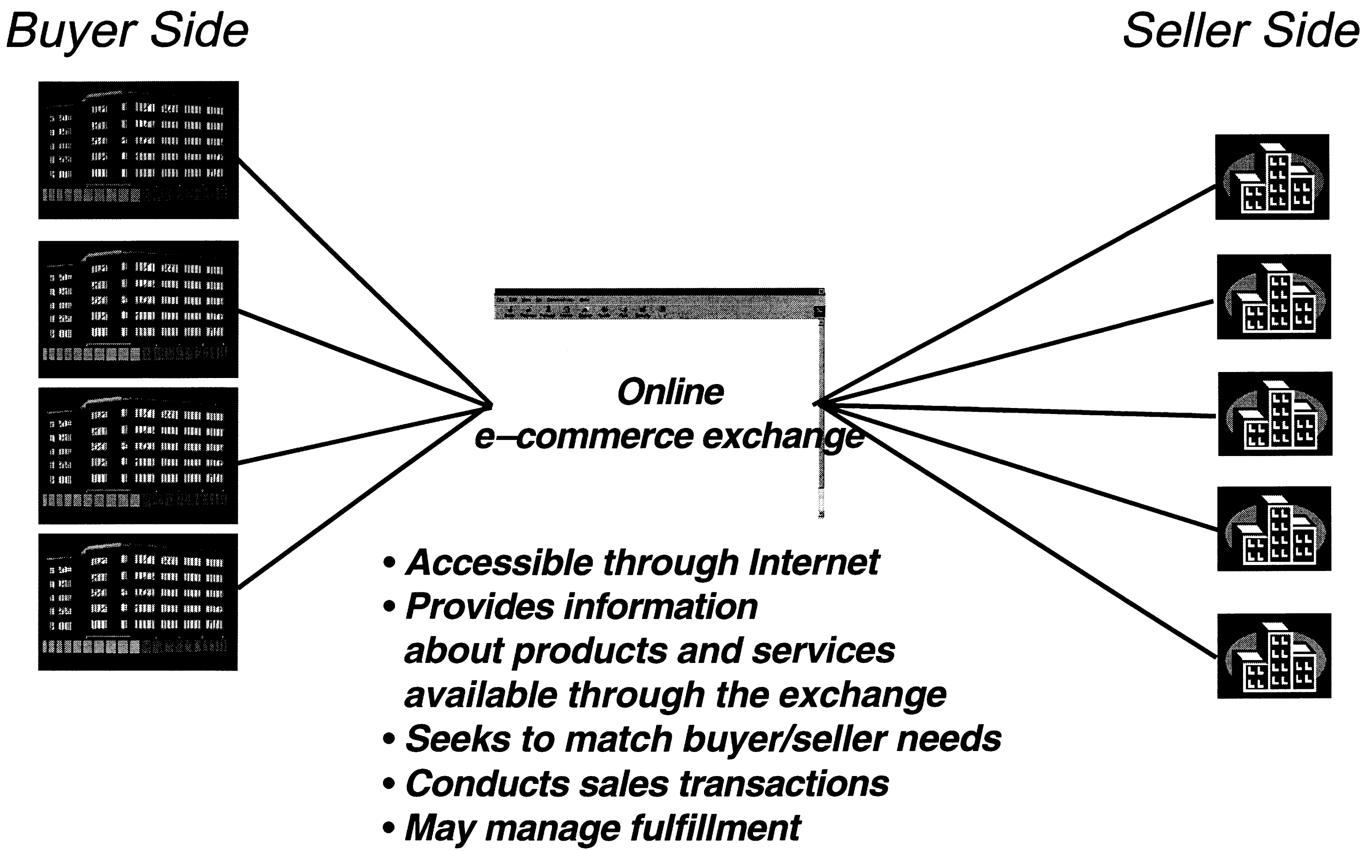
Figure 2. Structure of e–Commerce Exchanges



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features online buying and selling. Some exchanges assist in the purchase or sale of raw materials (e.g., steel) and parts that are used directly in the manufacture of a product. Others focus on maintenance, repair, and operating (MRO) goods, including computers, office supplies, temporary worker hiring, and legal services.

These online exchanges are distinguished by (1) a vertical or cross–industry focus, (2) a buyer or seller focus, and (3) custom or catalog focus (Table 2).

At the beginning of 2000, it was estimated that there well over 500 online exchanges operating for the purpose of business–to–business electronic commerce (Tedeschi, 2000). More are opening monthly, and still more are in the planning stages.

At the same time, there are emerging signs that business–to–business "dot coms" may be violating the same principles as in the consumer–oriented segment. The signs include:

- Low barriers to entry. The tools and technologies needed to establish an exchange are well understood and readily accessible. Linking suppliers or buyers into a market is often relatively easy at this early stage, particularly since exchange developers do not require participant investments or fees. Defensible strategies and intellectual capital may be wanting.
- Dependence on key participants. The transaction value and volume in many exchanges is accounted for by only a handful of participant companies. In some instances, it appears that upwards of two–thirds of the exchange's volume is from a single participant, or from firms that are the owners of the exchange.
- Outside of the legitimate supply chain. Exchanges frequently are used for "spot" purchases rather than for ongoing supply requirements ordinarily met through the traditional buyer/supplier channels. Many such exchanges will be unable to develop the systems and relationships needed to be the supplier of choice for high volume customers.
- Dominant firms establishing exchanges. Increasingly, the dominant firms in an industry (e.g., hospitality, chemicals, paper, and automobiles) are establishing exchanges as strategic buying or selling vehicles. Their level of capitalization and likely member driven business volume are surely a serious threat to rival, entrepreneur–driven exchanges.

TABLE 2
COMMON FORMATS OF e–COMMERCE EXCHANGES

• Industry Focus	*Vertical exchanges* serve specific industry. Example: hospitality or paper industry exchanges. *Cross industry exchanges* provide products or services that are useful across multiple industries. Example: Consumer electronics exchanges
• Client Focus	*Buyer focused exchanges* represent customers, offering services that assist in finding and negotiating purchase transactions from suppliers. Example: Travel auction exchanges *Seller focused exchanges* represent vendors, offering services that assist in sale of their products to buyers. Example: Travel booking exchanges
• Product/Service Focus	*Catalog exchanges* support transactions involving standard products and services, often listed in online catalogs that describe their characteristics. Example: Hardware exchanges *Custom exchanges* include tools that enable buyers to specify the unique characteristics desired in a product or service. Example: Steel ordering exchanges

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The principles of business relearned by business–to–consumer firms will probably have to also be relearned by business–to–business exchanges. A shakeout is inevitable.

Emergence of "Brick and Mortar" e–Commerce Strategy

While "dot com" firms in both business and consumer segments have enjoyed the e–commerce spotlight for past several years, the second generation will refocus the attention to established corporations (often dubbed the "brick and mortar" firms, so named because they conduct their operations from physical facilities). In the first generation, most large corporations did not publicly treat Internet based e–commerce as an externally oriented strategic resource (Senn, 1999). Although many initially established a Web site (perhaps only to claim its existence), they have not leveraged its capabilities for business advantage. Even fewer developed strategies to capitalize on the exchange capabilities inherent in the Internet's World Wide Web.

This will change dramatically in the second generation. E–commerce will increasingly be characterized by the highly visible e–commerce strategies emanating from traditional, established corporations. These firms will forcefully capitalize on their resources and know–how, including:

- Visibility as established and often well–known companies
- Brand names that can be leveraged while start–up "dot com" must invest precious resources in building their brand
- Management talent, usually seasoned in traditional commerce (but not necessarily in Internet based e–commerce)
- Deep financial pockets, putting time on their side compared to start–up firms
- Infrastructure in the form of channels, distribution systems, and information technology.

Four different business structures have already emerged (Table 3). Some firms will integrate the e–commerce business within the current corporate framework by using Internet commerce sites as an additional sales channel. The Office Depot, a nationwide operator of office supply warehouses, treats its online e–commerce site as a fourth channel (supplementing its in–store, catalog, and fax channels) for reaching customers. Identical products can be purchased through any of the channels. The online channel is fully integrated into the company's day–to–day business. Office Depot's payoff from creation of the additional channel, in the form of new business, has been huge, and continues to grow.

TABLE 3
e–COMMERCE STRUCTURES OF ESTABLISHED CORPORATIONS

• Integrated e–commerce strategy	Firm's e–commerce strategy is fully integrated into existing organization.
• Independent business unit	Firm establishes separate business unit that implements firm's e–commerce strategy. This unit can also interact and cooperate with existing operating units within the organization.
• Partnership strategy	Firm establishes a cooperative relationship with an independent organization. Responsibility for e–ommerce activities is split between partners.
• Joint venture strategy	Firm establishes a separate organization, with other partners who invest in the new organization. The joint venture has its own identity, strategy, management team, and operational capabilities.

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In other cases, firms are already establishing separate online commerce organizations that can operate both independently and yet in cooperation with the brick and mortar part of the firm. The retail drug industry is a representative example of this structure. The CVS drugstore chain established a full–service online pharmacy that enables customers to initiate immediate and recurring purchases over the online commerce site. Prices are generally 10 to 30 percent lower online compared to those in their traditional stores. The online site capitalizes on the capabilities of information technology to provide additional services (e.g., reorder reminders and drug interaction checks) that are more difficult to offer in the retail stores. Purchases can be delivered directly to the buyer's location without their need to visit the retail store.

On the other hand, CVS gives online buyers the option of directing that purchases be delivered through a local retail store. Combining brick and mortar stores with online e–commerce sites (i.e., "click and mortar") promises to be a common business format for many established firms. They will be able to leverage their existing facilities and infrastructure, and their brand name, while expanding their reach to tap new segments of the market not serviced by their current stores.

The third form features a partnership between on online firm (perhaps a start–up) and a traditional company. The online e–commerce site (branded with its well–known name) is linked to a partner that handles the transaction and fulfillment activities without visibly displaying its company name. On the other hand, the online site may be that of a "dot com" which in turn relies on a traditional firm for fulfillment. In the retail drug industry, the well–established Rite–Aid chain supports the new drugstore.com online commerce site.

Finally, some firms will spin off their e–commerce component as a separate venture. The new firm may be geographically distant from the corporate headquarters, draw on venture capital, and position itself for an IPO to generate new funds and build additional market value that might otherwise remain hidden within the corporate parent. Retailing giant Wal*Mart is pursuing this strategy.

It is likely that each of these structures will be deployed as brick and mortar firms combine physical and online resources (already dubbed click and mortar structures). They are positioned to arise as fierce competitors in the next generation of e–commerce.

Business–to–Consumer Is Not Doomed

In spite of the fact that the luster is off many first generation business–to–consumer firms and even though their market values are down sharply, it would be a mistake to conclude that this e–commerce segment will fail or fade away. In fact, the additional services and features that can be offered to consumers buying online (e.g., broad product selection, online access from anywhere, custom information, etc.) will continue to attract a growing number of buyers. Additional innovations will emerge to further stimulate this segment.

Moreover, contrary to popular belief, a significant number of business–to–consumer "dot coms" are already profitable. For instance, in the challenging online retailing sector, there are already many success stories. A recently completed Boston Consulting Group study reports that 38 percent of 221 Web retailers studied are profitable and that 72 percent of catalog companies that have moved onto the Internet have Web operations that are generating profit (Boston Consulting Group, 2000).

SUMMARY

The e–commerce projections emanating from the various commercial research houses project bright futures in both the business–to–consumer and business–to–business segments. These projections are not in conflict with the falling market valuations of the early "dot com" firms. Rather, the market re–assessment is both a result of early, unrealistic speculation about the ease of generating huge profits simply by establishing a commerce site on the Internet from which to reach and sell to consumers and poor adherence to business principles. It is likely that a similar shake out will occur in the business–to–consumer sector, particularly for online exchanges.

While the "dot com" boom appears to be over, a new generation of e–commerce is emerging. This generation will include the traditional, established firms that have seemingly remained on the sidelines throughout the early boom days. As brick and mortar takes on more of a click and mortar characteristic, business will see electronic commerce grow to become a fundamental part of business strategy across all industries. Moreover, both business and consumer segments are likely to enjoy high levels of success, providing they develop and execute effective business strategies.

REFERENCES

Boston Consulting Group.
The State of Online Retailing. Boston: Boston Consulting Group, 2000.

Elliott, Stuart.
"Advertising," *New York Times* (February 1, 2000): C10.

International Data Corp.
Internet Commerce Market Model, v5.0. Framingham, MA: International Data Corporation, 1999.

Porter, Michael.
Competitive Advantage. New York: The Free Press, 1985.

Senn, James A.
"Electronic Commerce Models: Business–to–Consumer Practices in Public Corporations." In *Proceedings of the Association for Information Systems*, pp. 256–8. 1999.

Stewart, Thomas A.
Intellectual Capital: The New Wealth of Organizations. New York: Doubleday, 1997.

Tedeschi, Bob.
"E–Commerce Report." *New York Times* (January 24, 2000): C10.

Wolff, Michael.
Burn Rate: How I survived the Gold Rush Years on the Internet. New York: Touchstone/Simon & Schuster, 1998.

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