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Keeping E-Business in Perspective

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Abstract

The article reveals that not all business fit the model of electronic business (e-business). Since the bubble burst in April 2000, many have become pessimistic about the future of e-business. Having been through process reengineering, enterprise resource planning, and now e-business with disappointing results, experienced managers are wary of large IT investments. Multiple failures in B2C, B2B, and other forms of e-business have raised questions regarding the pace at which the networked economy is emerging and ultimately the suitability of e-business for many firms. Claims that e-business is driving revolutionary business change are misleading and only partly correct. The most likely path for the evolution of e-business is an incremental one, automating the existing B2B processes and extending the few B2C successes.

Keywords

e-business, e-commerce, e-business development

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Keeping E-Business in Perspective

Three years is a long time in the world of e-business. In 1999 bookstores were replete with treatises by e-vangelists heralding a new 'network economy' that would fundamentally change the conduct of business and commerce. According to the consultant Booz-Allen and Hamilton, more than 90% of top managers believed that these claims would be realized by 2001 [3]. As we now know, these e-vangelists were at best premature and at worst false prophets. Since the bubble burst in April 2000, many have become pessimistic about the future of e-business. Notwithstanding, IT professionals and consulting firms continue to promote e-business and many firms (though not start-ups) continue to invest in its application. A positive view of the events of the last three years might assert that we have learned from the 'tech-wreck' and now know how to build sustainable e-businesses. Seen from this viewpoint, managers should still be implementing substantive electronic business plans and doing so with a clearer, more viable vision of the networked future. However, this view could not be further from reality. Many firms remain confused about the implications of e-business technology and have curtailed their implementation plans.

There are a number of explanations for such reactions:

- ❖ Experienced managers are wary of large IT investments. Having been through process re-engineering, enterprise resource planning and now e-business with disappointing results, managers are cautious;
- ❖ Despite huge investments in consulting advice, managers have struggled with the same set of IT implementation problems for a decade;
- ❖ The competitive necessity driving e-business implementation varies considerably from industry to industry. Firms are exposed to wide-ranging levels of competition and any

attempt to establish networked alliances tends to be more difficult today than it was for early pioneers such as Cisco in networking and Dell in personal computers;

- ❖ Heresy though it may seem to many, the promise of electronic business may actually be more hyperbole than substance. Multiple failures in B2C, B2B and other forms of e-business have raised questions regarding the pace at which the ‘networked’ economy is emerging and ultimately the suitability of e-business for many firms.

Our discussion focuses on this last issue. By examining the economic forces that drive e-business change rather than the technologies themselves, we seek to determine the appropriateness of e-business to the firm. We start by asking two related questions: where is e-business concentrated and why is e-business occurring as it is?

WHERE IS E-BUSINESS CONCENTRATED?

Prior encounters with revolutionary technological change stress a distinct difference between *espoused theories* (what is said about the technology) and *theories-in-use* (how the technology is actually used)[1]. The actual impact of e-business on the way people shop and the way business is conducted on a day-to-day basis (theory in use) contrasts sharply with the way it is talked about by the techno-elite and reported in the popular media (espoused theory).

Technology-in-use: Business-to-Consumer Perspective

Established statistical sources indicate that most people still lack or choose not to have Internet access. Even in the United States, the cradle of the Internet, a significant proportion of the population still does not have access at home. For those with access, either at home or in the office, the Internet has proven to be more of an addition to their lives—at times helpful or entertaining, often slow and frustrating—than an indispensable feature. For example, many start-ups and established retailers have invested millions of dollars in establishing an electronic alternative to shopping for groceries. Yet despite their best efforts, a minority of

households orders groceries online. In reality, many consumers see this task as one of life's small pleasures and have no intention of giving up the physical shopping experience. Additionally, many products and services are 'experience' goods that have to be seen or touched for us to appreciate them. Reconciling the urge to give away your product to let people experience what you have to offer with the need to charge them to recover your costs continues to be one of the fundamental problems facing businesses in the networked economy.

In short, despite the media attention, electronic business among consumers is still in a formative stage. The few successful examples we have of B2C businesses—say, Amazon or E-bay—are arguably in specialized categories of goods and attract a minority of customers. Experts quoted in the *New York Times* (April 16, 2001) have predicted that online penetration will never exceed 15% of book sales. Consumers continue to experiment online and many business-related barriers have still to be overcome—security, privacy, uncertainty, low bandwidth, consumer protection and network access—before we can begin to speak of a revolutionary change in customer outlook and behavior.

Technology-in-use: Business-to-Business

The potential for real, transformative change and exploitation of e-business is more apparent in upstream business-to-business (B2B) activities. For companies like Cisco and Dell, the movement of products from detailed designs to basic commodities through a supply chain is where the real value in electronic business lies. There are several reasons why businesses are more willing than consumers to communicate, negotiate, buy and sell online:

- ❖ Large companies are generally better equipped to communicate electronically. Many business transactions are already conducted at a distance by facsimile, mail, or EDI. For example, Dell's online catalogue-based competencies—quick response, low-cost

fulfilment system characterised by direct customer interactions and made-to-order manufacturing—easily translated to the Web;

- ❖ Companies are more cost-conscious. Every dollar saved in procurement is equal to a dollar of profit. For example, the opportunity to standardize procurement systems and capture cost savings has been the driving force behind joint exchanges involving Ford, General Motors and others;
- ❖ As corporations develop online strategies aimed at reducing costs and increasing efficiency, network effects have a particularly strong impact. Organizations that have invested substantially in developing IT supply chain infrastructures have a strong incentive to encourage others to do the same and thus make further efficiency gains from a more complete network;

As we enter a new phase in e-business development, sustainable growth in B2B electronic commerce becomes more likely, shifting attention from the failed business models of start-ups towards strategies for more established firms—particularly branded goods suppliers and physical retailers. In the next section, we investigate whether the commonly espoused predictions for e-business driven change apply to such established players.

WHY IS E-BUSINESS OCCURRING AS IT IS?

We are beginning to see signs of a general maturing of the e-business user community and the social impact of the Internet on the lives of ordinary people is becoming clearer. For business, however, the answer to the all-important question of how to make money is not at all apparent. Despite billions of dollars in investment, firms are still struggling to find the best way to complement traditional activities or develop new electronic lines of business.

Whilst we have seen tremendous savings in the time and cost of routine tasks (e.g., buying and selling shares, tracking inventory and delivery schedules), by and large few of the visionary predictions concerning the e-business revolution have materialized. Indeed, for

every domain where cost savings can be identified, countervailing areas exist where additional costs have been incurred. The most salient insight emerging is that the principles that have governed business success for centuries remain largely unchanged. Exhibit 1 summarizes the predictions made about e-business and our assessment of the current reality.

Exhibit 1 about here

Importance of brand strength. A common belief was that the low setup costs associated with e-business technology would enable a one-person business to make its virtual storefront available to as many consumers as the big players—representing a major potential threat to established brands [8]. This threat would be amplified by the customer’s use of intelligent agents and comparison software. However, the evidence indicates that these predictions have yet to approximate reality. In an Ernst & Young survey on e-commerce, 69% of respondents stated that brand names played a significant role in their online buying decisions. Moreover, evidence has emerged that many customers do not employ exhaustive search strategies; rather they become “locked in” to one attractive site [7]. In an over-communicated world, the Internet provides no guarantee of lower search costs or customer attention and online users continue to gravitate towards brands for two basic reasons: (1) brand names act as substitutes for information gathering, helping online buyers locate specific products and thus reducing search costs; (2) brands build trust, security and expectations regarding product quality. The key issue for firms is to determine where their brand strength lies. Existing brands that are based on emotional associations (e.g., young girls attachment to Mattel’s Barbie brand) are likely to be reinforced rather than threatened by the online medium. Recognizing that their strength is built through more dynamic media, they will use the static nature of the Web to complement other marketing activities. However, brands that convey beliefs or facts regarding product or channel attributes (e.g., UPS same-day parcel delivery), face challenges

from new cyberbrands because attribute-based branding may be better suited to the online medium and thus the playing field may be leveled.

Disintermediation to intermediation. The late 1990s was supposed to be the age of disintermediation. Futurist George Gilder wrote, “[I]n every industry—from retailing to insurance—the key impact of the computer-network revolution is to remove the middleman” [6].

At least that was the theory, but the computer vendor Compaq provides an example of the risks associated with a strategy based on such beliefs. Compaq Australia attempted to eliminate reseller margins by going direct to the customer with a more price competitive product. Unfortunately, Compaq’s success had been largely determined by its close channel relationship with resellers. Not surprisingly, when resellers learned of Compaq’s decision to sell direct to the customer, they reacted by tossing all Compaq products out of the country’s leading retail outlets. Having lost an estimated A\$100 million in revenue, Compaq was forced to backtrack (*The Australian*, 24 August, 1999 and 17 April, 2001). The Compaq story is one that other retail producers are loath to repeat. The combination of intermediary power and proximity to the customer explains why we have seen very few successful examples of disintermediation. It has nothing to do with whether or not profits are possible from disintermediation and everything to do with deciding how to move into a new distribution channel without jeopardizing existing channel relationships.

Value as well as price influences purchase decisions and adept intermediaries can exploit new business models to provide customer value in new ways. Institutional structures such as intermediaries satisfy complex customer and supplier requirements that can not simply be unraveled overnight. Thus an increase in the number of e-business middlemen or ‘infomediaries’ is just as plausible as any predicted demise.

Economies of scale and scope. Esther Dyson, chair of the Electronic Frontier Foundation, has suggested that the Internet will change economies of scale in favor of ‘the little guy’ [5]. As a result, online firms will face less pressure to grow and benefit from economies of scale.

This view is inconsistent with the lessons of history that have shown that the size of the firm or the network tends to produce a simple logic: the larger the network the more attractive it is to users. This phenomenon, referred to as *network externalities*, is illustrated in rail, trucking, telecommunications and banking networks (i.e., ATM machines). Markets for portal companies (e.g., Yahoo.com) and software (e.g., Microsoft) provide more recent illustrations of companies deriving increased value from wider networks.

For example, the benefit derived from using Microsoft’s Office Suite is not just that it permits word processing and spreadsheet analysis. More importantly, it facilitates interaction giving users the flexibility to work from different locations, share files and collaborate with others seamlessly. The greater the number of people using the product, the greater the benefit to users and to Microsoft.

Lower prices. Conventional wisdom and economic theory suggest that a combination of increased competition and improved price discovery technologies will create more efficient markets and reduce the price of goods and services traded online. However, although the networked economy offers potential opportunities for lower consumer purchasing costs, the same infrastructure can also be used by incumbent sellers to collect and process customer information in ways that maintain their oligopoly power. A more positive outcome would be for firms to use this same information to deliver products in a more value effective way, possibly increasing the final price but enhancing the overall value proposition to customers.

The main impact of e-business is its ability to reduce the cost of exchanging and processing information, thereby reducing the overall costs of customization—either between a producer and a supplier, or a customer and a product/service provider. The potential is not that the bottle of Coke or metallic widget will be cheaper (although this might occur in some

circumstances), but the cost of getting the right item to the right customer will be reduced.

Value system change has occurred where particular upstream and downstream activities have been opened up or better tailored to customer needs. Thus what we are seeing is the formation of a new transactional medium designed to reduce deadweight losses. Technology is allowing us to capture a larger part of the whole customer proposition. As such, speculation about whether prices will rise or fall is something of a red herring—they could go up or down depending on the evolution of value in specific markets.

Summary: conflicting worldviews. The way technology is used in the social and business environment will continue to change. The question we need to ask is whether or not the Internet boom of the 1990s infers an eventual shift in the way business is conducted towards a more networked form. One side of the argument holds that the fundamental rules that have governed business for centuries—supply versus demand, market competition, segmentation pricing, contracting and the nature of governance in the firm— remain as relevant today as they were when Adam Smith described the workings of a 19th century pin factory. Thus, although e-business will have an impact on many businesses and make new demands on managers, the basic rules will not be altered. This can be summed up as, “There is no such thing as e-business; there is just business and some of it is electronic.” The counter stance is that the old rules of business no longer apply; a sea change will occur in the way we approach the way firms operate, as summed up in the phrase “There is no business bar e-business”. The remainder of our paper seeks to determine whether the events of the past few years are a prelude to an eventual revolution or whether e-business will take a more evolutionary, less significant path. This is an important distinction because it influences the degree of environmental uncertainty and the extent to which managers must operate in uncharted territory.

YOU SAY YOU WANT A REVOLUTION?

Clearly, many people feel that the changes wrought by transistors and subsequent technologies of information processing and communication satisfy the criteria for a revolution. However, what we need to understand is whether what is occurring in the e-business domain is being driven by the special characteristics of e-business itself or related to changes in business management that are affecting e-business. Although such a question may appear mundane, the answer will determine the relevance of current academic theory and business practice to the supposed new reality.

According to Manuel Castells, technological revolutions are characterized by their *pervasiveness* across all domains of human activity; not simply their impact on what is done but on *how* it is done [4]—that is, they must change *processes* in some fundamental way. E-business cannot yet claim to have radically changed the way the vast majority of people shop or how most business is conducted on a day-to-day basis. Evidence of a radical change in productivity whereby the economic production function has shifted unilaterally with respect to information technology, has yet to emerge. Social requirements still govern technology (not vice versa) and current efforts to ‘virtualize’ commerce and business exchange have not been sufficiently pervasive or process-oriented to warrant the term ‘revolutionary’.

Rather the Internet and e-business alike are complementary events linked with the progression of related technology. E-business is not a stand-alone phenomenon but part of a wider more historically pervasive movement. Like all myths, that of the Internet boom captured only some elements of reality—as was the case with the computer revolution. The popular claim that the development of the transistor alone explains the progress of computing ignores the significant influence complementary technologies (e.g., disk storage, network connectivity, video display units, etc.) have had on the development of the working computer. In a similar vein, claims that e-business is driving revolutionary business change

are misleading and, as we have shown, only partly correct. Indeed, the most likely path for the evolution of e-business is an incremental one, automating existing B2B processes and extending the few B2C successes.

If there is an unpredictable revolutionary character to the Internet, it lies more in the way people, rather than businesses, interact. Within non-profit organizations and associations we have seen many forms of social experimentation—with the result that there has been a sea change in the ways such groups communicate. The ability of associations such as Amnesty International and Human Rights in China to coordinate effectively and bring influence to bear on governments is a remarkable testament to this social revolution.

A Final Wrap

In challenging the popular myth that e-business is revolutionary, we hope to provide managers with a clearer understanding of its ramifications for current and future generations. Predictions regarding the demise of brands, middlemen, scale and imperfect markets have failed to materialize. Advances in information and telecommunication technologies have yet to change in any significant manner the way major decisions are made in business. Nearly every week brings news of scaled-down ambitions or firms' collapse. These are poignant reminders that reorganizing to effectively achieve e-business performance is rarely easy. Instead, basic principles—such as identifying customer value propositions and putting together the right people, processes and technical resources in an effectively managed manner—are still as relevant today as ever. As Shapiro and Varian rightly point out:

“ Technology changes. Economic laws do not.” [9]

However, the salience of specific ‘laws’ will wax and wane and answers to new management challenges will be required to ensure the costly nature of e-business development is wisely managed. From an economic and management perspective, we need to focus on making a clearer distinction between where the Internet has simply changed the

cost of making specific transactions and where it has transformed the fundamentals of the transactions themselves. Auctions, for example, have remained the same for centuries. When I bid online for a piece of Ming porcelain on E-Bay, the only difference is that I am bidding against more people from diverse locations than in a face-to-face setting. Conversely, if I am a component supplier operating in the auction created by FreeMarkets, the old relationship-based mechanisms of procurement may be changed forever. The real areas of change are those where 'old' institutions—hierarchies within firms, established supplier relationships, ordering and payment systems, etc.—can be co-opted by technology in ways that transform not the business, but the psychology of the business and the fundamental core of what defines that business. Such areas of change do exist, but they are far fewer in number than the e-vangelists thought.

Exhibit 1: Predictions and Reality

Prediction	State of Current Reality
<p>Brands will die! The Internet represents a major threat to brands making brand strength weaker than ever before [8].</p>	<p>In an over-communicated world, the Internet provides no guarantee of customer attention or lower search cost. It is likely that users will continue to gravitate towards brands as a way to simplify choices, reduce search costs and build trust. This view is reinforced in a Boston Consulting Group (1999) study entitled “The State of Online Shopping”, whose authors conclude: “The brand is everything and everything is the brand.”</p>
<p>Middlemen will die! “In every industry—from retailing to insurance—the key impact of the computer-network revolution is to remove the middleman.” [6]</p>	<p>We have seen few examples of successful disintermediation resulting from e-business investment. This has nothing to do with whether profits are possible. Rather, it has everything to do with the difficulty of working out how to move into a new distribution channel without jeopardizing existing channel relationships. An increase in the number of e-business middlemen or “infomediaries” is just as plausible as any predicted demise.</p>
<p>Scale is irrelevant! Esther Dyson, has suggested that size will be less important for online firm [5].</p>	<p>Networks, be they real or virtual, work to a relatively simple logic: the larger the network, the more attractive it is to users. Markets for portal companies (e.g., Yahoo.com), hardware and software (e.g., Microsoft) all provide recent examples of companies deriving increased value from wider reach. Equally standardization of inter-organizational systems will require governance mechanisms and large firms will leverage their bargaining power to encourage co-operation among channel members.</p>
<p>Lower prices! E-business will lead to more efficient markets and lower prices [2].</p>	<p>Reduced information exchange and coordination costs have enabled firms to capture a larger part of the customer value proposition. Whilst the cost of getting the right item to the right customer has got cheaper, there is no guarantee that this will result in lower prices. Speculation about whether prices will go up or fall is something of a red herring.</p>

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