STRATEGIES FOR TRANSITIONING 'OLD ECONOMY' FIRMS TO E-BUSINESS

SURVEYING THE WRECKAGE OF THE DOT-COM MELT-down of 2001, it is easy to overlook the persistence and rapid growth of e-business throughout the U.S. economy. While many high-flying dot-com firms, including Beyond.com [2], Boo.com [3], DrKoop.com [8], Kozmo.com [1], and Webvan [5] vanished, use of the Internet as an essential business tool continued to grow dramatically. At the peak of the e-business hype in 2000, most pundits ignored the nascent efforts of large legacy firms, or those that existed before the advent of e-business and had yet to embrace the Net. A common misperception about e-business was and still is that you either got it or you didn't get it. By definition, flashy e-business pure-plays, or the dot-coms, got it, and except for a few visionaries, legacy firms didn't. Today, legacy firms represent the future of e-business, and understanding e-business from their perspective gives us a clearer picture of how e-business will develop in the future. The online grocers represent a clear example. The pure-plays Homegrocer and Webvan received enormous media attention and heavy investment from venture capitalists. Today, both are out of business, while traditional British grocer Tesco has emerged as the most successful grocer online.

When devising an e-business strategy for legacy firms, be wary of the five myths of e-business development while embracing the five guidelines of managerial responsibility and leadership.

The hype surrounding e-business has inspired a set of myths about legacy firms and the nature of e-business that might give managers an oversimplified and misleading view of the wired economy. Careful analysis of the e-business initiatives and strategies of legacy firms helps get us past the myths toward a more realistic perspective on e-business. It is far too early in the history of the e-business phenomenon to declare winners and losers, but by reporting what is happening in the field and challenging the myths, we hope to give managers of legacy firms a better picture of the strategic choices available to them in preparing their organizations for e-business and the key factors they need to weigh when making their decisions. The result is a clearer indication of what it takes to make sustainable use of the Internet in business.

During the winter and spring of 2000, we identified nearly 200 senior managers throughout North America with major roles in formulating or implementing their organizations' e-business strategies; we call them chief e-commerce officers, or CeCOs, though they have a dozen different titles. We conducted in-depth interviews with 35 of them to understand their roles, how their jobs were defined, and

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how their organizations were preparing to enter the Internet economy. We also wanted to understand why some organizations move ahead and why others are stuck in neutral. Included were Chubb, Fannie Mae, Kraft Foods, Kodak, Prudential, Texaco, and other large legacy firms.

Myth 1. The first-mover has the advantage, and everyone else is online anyway, so give up. The implication is that slow-moving legacy firms are not able to compete with the dot-coms that entered the e-market first and established brand loyalty with high switching costs and a network of loyal users, customers, and suppliers. However, the Internet land grab is not over, mainly because the notion of being online is still not well defined. To some organizations, being online means having a corporate Web site; for others, it's the ability to conduct transactions through the network. For us, being online means having a sound e-business strategy. One day, economists may convincingly prove or disprove the assertion that in e-business there is a strong first-mover advantage. Meanwhile, we know that without a sound e-business strategy, any firm, new economy or old, is at a serious disadvantage.

The mistaken fixation on Web sites and their functionality is a result of the natural tendency to focus on the tangible. Much more difficult is to appreciate what goes on behind a Web site: the business processes; the integrated systems; the firm's overall e-strategy. Believing the myth of overwhelming first-mover advantage is dangerous for two reasons: It can lead to misinterpreting the competitive landscape, and it can divert management attention away from the formulation of an e-strategy to observable technical milestones that add little value [6].

In our study, we found that as of the summer of 2000, many well-known, well-regarded legacy firms lacked any Web site at all (admittedly, this was a passing phenomenon) and many firms had Web sites designed primarily to support investor-relations communications or display basic product brochures. For example, Ann Taylor, a U.S.-based women's clothing retailer, did not even have a Web site, giving the

appearance of being behind the times; AnnTaylor.com eventually rolled out in November 2000. AnnTaylor.com outsources order fulfillment logistics to J.C. Penny and is listed prominently on the Yahoo.com shopping site. The site today has sophisticated features linking the online experience to that in Ann Taylor's brick-and-mortar stores. Ann Taylor is not alone among clothing retailers moving online. The Brooks Brothers online catalog allows retail customers to order custom-made shirts, and Men's Wearhouse, Talbots, and The Gap have each developed a strong presence on the Web. Rather than being eclipsed by dot-com rivals, these firms are steadily developing the new channel to complement their existing stores and catalogs.

Successful e-business requires a firm to define its strategic objectives for that business. Building on these objectives, it sets particular technical milestones. Determining the strategic objectives, or what e-business means to a firm, then organizing to effectively achieve these goals, are managerial challenges. In the following sections, we explore some of the reasons this effort remains a management challenge.

Myth 2. It's all about finding the next killer application. The popular business press has reinforced the notion that the only way for firms to successfully involve themselves in e-business is to develop an innovative new product incorporating the Internet and revolutionize their core business models [4]. Examples include American Airlines' NetSAAver email system, which almost overnight attracted close to two million subscribers for its weekly specials, and Cisco Systems' online customer support systems. Another interesting case is the online auction. While eBay developed this application into the heart of its business, its purely online business strategy is the exception rather than the rule. In fact, a growing number of online auctions are managed by legacy firms, including Dell Computer, Lufthansa, and Sam's Club [9, 10]. These firms use online auctions as a complementary distribution channel. Managers accepting the killer application myth as gospel live in fear of competitors developing

one first and are seduced by quick-hit thinking that distracts them from the less exotic goal of determining how their firms might harness the power of the Internet to improve how they do business. These managers risk diverting critical resources to high-risk, low-return technology projects or to the rapid acquisition of startups promising to complement existing business lines without careful attention to the costs of integration.

Our study found that managing an e-business transition is more about leading the design and implementation of a comprehensive and continuously evolving e-business architecture than buying a technology solution. We asked participants to describe what they thought were the most daunting obstacles to e-business success in their organizations. By far, the most cited were what we term organizational obstacles. CeCOs face the challenge of justifying support for an inherently risky endeavor whose success is difficult to measure and is likely to dramatically change an organization's internal power structure. The protracted debate at Merrill Lynch in 1999–2000 on the merits of offering online trading illustrates this point [11].

Managers should distinguish between the need to move quickly, spurring innovation, and belief in a silver-bullet solution to the challenges of e-business. One common approach to accelerating e-business efforts is to create a dot-com spin-off, feeling that only within an independent entity with a separate culture is it possible to be innovative.

Myth 3. The only way to get started in e-business is to spin-off or acquire a dot-com. This myth derives from real internal and external challenges to the credibility of a firm's e-business efforts. Internal development projects of complex information systems in many companies are rarely accomplished on time and within budget. Moreover, it has been difficult to attract new employees with e-business skills to legacy firms because of the difficulty of creating an atmosphere of excitement in firms for which e-business is only one of many ongoing initiatives, rather than their sole purpose; it is also difficult to create Internet-oriented working conditions in firms with established policies for the allocation of decision rights, performance measures, and compensation. A spun-off organization entices managers as a way to make an end run around corporate obstacles. For example, some managers told us how challenging it is to be noticed by senior corporate management as long as traditional business activities perform well; others told us that spinning off their early Internet activities might gain them direct access to the capital markets, enabling them to raise millions to fuel their Internet ambitions without going through the requisite rigor of internal capital budgeting.

The dot-com spin-off is an example of creating a direct e-business unit, or DBU. Firms perceiving an immediate threat to their market share or sensing an opportunity to leap ahead of the competition might be prompted to seek to organize their e-business efforts in ways that achieve quick results. The DBU provides an enormous speed advantage. Many retail firms have thus spun off separate dot-com divisions to explore this new channel or acquired existing dot-coms in their industry. For example, when threatened by Drugstore.com and PlanetRx.com, CVS acquired Soma.com; Toys-R-Us created Toysrus.com to protect itself against the threat of upstarts like eToys; and BarnesandNoble.com was spun off to counter Amazon.com. Later, CVS developed its own CVS.com, and ToysRus.com consolidated its delivery process with Amazon.com.

The direct approach does not always involve a spin-off and does not preclude horizontal cooperation and integration. For example, in 1999 Kraft Foods established an e-business division; today, it coordinates Kraft's major e-business initiatives, such as providing services to vendors of its brands and marketing these brands directly to consumers. This DBU operates as a test bed for e-business activities that will, if successful, ultimately be reintegrated into the overall firm. Fannie Mae has also organized its e-business activities as a DBU but in a much more ambitious way—creating e-versions of each of the major activities in its business. Ultimately, all transactions will be moved online, and the e-business DBU will encompass the entire firm. Firms like Kraft and Fannie Mae use the direct organizational structure to help create next-generation versions of themselves for the Internet age. They view e-business as having a pervasive effect throughout their organizations that could not be maximized by spinning off an online division.

When there are strong process "complementarities" between the e-business and the conventional channels, the spin-off model can undermine shareholder value. Charles Schwab quickly recognized that its market penetration associated with online services was significantly greater in cities in which it also had physical branches. It learned from its customers that establishing a new investment account is a complex activity, as most prefer direct human supervision and advice in an office environment [7]. Moreover, because of the difficulties of systems and process integration, the direct approach might limit what a firm might achieve in the realm of e-business. For example, Circuit City gives its online customers the option of home delivery or pick up at a store and provides real-time store-by-store inventory information. This customer-friendly operation draws customers to the stores, putting them in touch with salespeople, exposing them to more prod-

ucts, and creating an avenue for good customer support. Integrating online systems with in-store information and inventory systems would have been tough if the online effort had been spun-off as an independent dot-com.

A spin-off may be the path of least resistance to e-business. But because it does not integrate e-business with a firm's core processes, a spin-off might also leave the original firm no closer to its ultimate e-business goals. In addition, as the examples of Schwab and Circuit City demonstrate, a firm pursuing the spin-off strategy might miss opportunities for exploiting logistical and product-support synergies between its own traditional and relatively new e-business operations.

Myth 4. A single department or functional area should lead e-business initiatives. Some managers view the Internet as just another selling channel to be managed by the marketing department; others view e-business as a technological issue that should be added to the IT department's set of responsibilities. We also found situations in which a particular division recognized the most immediate benefit and took the initiative to participate in e-business. With such approaches, either no executive has been assigned to formulate an e-strategy or the strategy is being formulated in a very narrow way.

We found that firms seeking the broadest e-business result, not necessarily the quickest, typically organize themselves in what we call a virtual e-business organization. This approach is based on the assumption that e-business activities should exist throughout an organization's value chain and that e-business improves coordination among its activities so they complement one another. The role of an e-business management team is to coordinate projects, catalyze efforts across business units and functional areas, and help formulate the firm's overall e-business strategy.

The ways firms choose to implement the virtual approach differ significantly. Sometimes a looser structure fits the corporate culture better, and many of these organizational choices are played out in the various strategic business units (SBUs). For example, at Johnson & Johnson, a notably decentralized firm, the same decentralized structure has been carried over to e-commerce. The Johnson & Johnson Web site provides investor-relations information and links to its various brand Web sites. An up-to-date URL is apparently the extent of the firm's coordination of e-commerce activities. In a large U.S.-based insurance company that participated in our study, the CIO meets with representatives from the firm's SBUs to shape overall e-strategy, though his main function is to set the technology infrastructure standards for the entire firm and provide the technical know-how to support the various SBU initiatives.

When e-business is viewed as a means of improving processes, rather than transforming them, the virtual organization is typically implemented by appointing a senior manager (the CeCO) to head a council of managers leading e-business activities in different organizational units. We call this e-business strategy the weak virtual approach.

We identified several firms where the CEO quickly felt that e-business was a strategic imperative but was not current as to the technical knowledge needed to lead the effort. In such cases, the CEO delegated responsibility for e-strategy formulation and implementation to a CeCO. The CeCO initiates, rather than coordinates, e-business activities and has significant ownership over the firm's e-strategy; we call this organizational structure the strong virtual approach.

A large North American banking corporation also in our study took the strong virtual approach by placing e-strategy definition in the hands of a senior vice president designated as the CeCO. He has profit-and-loss responsibility for joint ventures with technology firms in the e-business market. He is responsible for a cost center operating within the boundaries of the existing firm with clearly delineated roles, such as establishing e-business-related educational programs and standards for security and privacy. When orchestrating the firm's e-strategy, he works closely with the SBUs that actually own the customers, deferring to their needs. He also identifies gaps in the firm's e-strategy not covered by individual SBU initiatives, as well as the opportunities for cooperation across SBUs, such as in business-to-business marketplaces.

While the strong virtual approach might seem overly complex, it may be the only one capable of integrating e-business into the entire enterprise without causing major disruptions. Like many multinational financial services firms, the bank provides a range of services to a broad range of customer segments in hundreds of branches. Its executives reasoned that any spin-off would leave a huge business behind in need of transformation. However, creating a completely online organization is not feasible for a company deriving immense benefit from its presence in the physical world. Its objective was therefore to pull together all customer information and banking applications to provide one-stop shopping via the Web for all its customers. The bank thus moves in stages: its Web services initially offered only information; transactions were added later; and in the future relevant services and offerings from third parties, even competitors, may be added.

Many options are available for reorganizing a firm for e-business. The choice of organizational structure

should depend on the anticipated effect of e-business, characterized by the immediacy of the threat posed by e-business competition and the pervasiveness of the changes the firm wants e-business to bring to its core (see Figure 1).

E-Commerce Leadership

As in the case of the CeCO in a strong virtual e-business organization, transforming the firm to e-business involves many managerial challenges. It needs to develop an e-strategy, and the related projects require some centralized leadership. Many early e-business projects were bottom-up initiatives in need of coordination, and it was essential for someone to ensure the firm's efforts stayed focused. Moreover, these initiatives are often cross-functional, requiring a senior executive to manage the process integration. Finally, e-business frequently leads to deliberate disintermediation or to bitter channel conflicts, as has been seen in the insurance, airline, photo finishing, and automotive sales industries where agents find themselves competing with their suppliers through direct online sales.
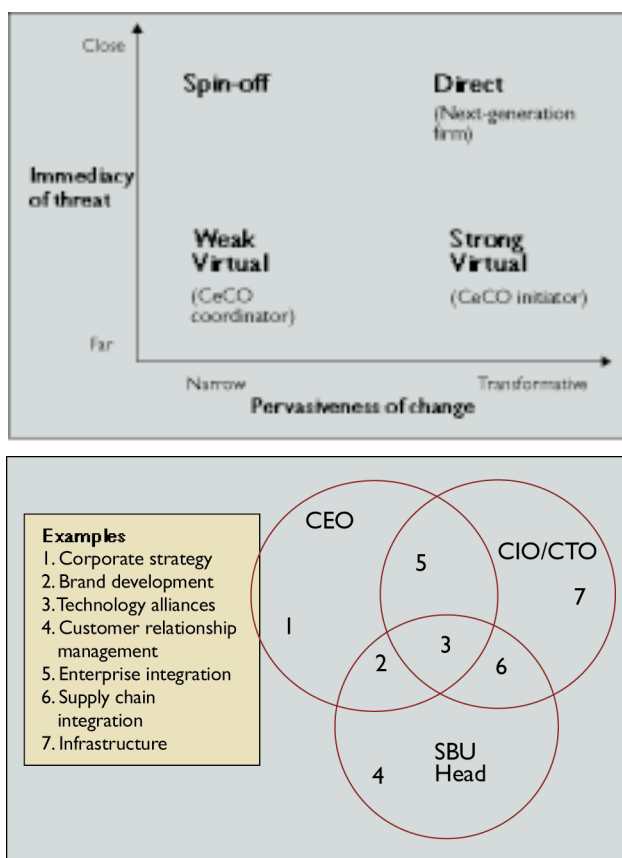
These unprecedented managerial challenges require politically savvy executives who synthesize business and technology strategies and capabilities. More important, they require an executive invested with considerable decision-making authority acting independently of individual functional areas. Such a person would represent what we call the idealized CeCO (see the sidebar "Emerging Role of CeCO").

Myth 5. The CIO should lead all e-business efforts. Traditionally, decision making about technology in a business involves the interaction of the CEO, CIO, and CTO, as well as representatives from the SBUs (see Figure 2). Adding a CeCO to the IT management team can disrupt the existing roles and boundaries of a firm's leadership. Establishing technology alliances might have been in the domain of the CIO/CTO and CEO; today, a third party, the CeCO, is involved,

▼ **Figure 1. Selecting an organizational structure for e-business.**

▲ **Figure 2. Traditional loci of decision authority and control.**

potentially advocating an alternative technological viewpoint. Similarly, while the CIO/CTO traditionally established standards with the SBUs for the corporate intranet and data security, a CeCO seeking increased external connectivity might advocate contradictory policies and standards.

Solutions to some of these potential conflicts involve placing the CeCO within the office of the CIO or designating the CIO as CeCO; we found both approaches occur frequently in practice. For example, the CIO of Xerox Corp. assigned a single group of IT professionals to manage development of the Xerox.com Web portal, ensuring consistency in look and feel when integrating the front-end Web presence with the back-end enterprise resource planning infrastructure. While the CIO manages the Web technology and its integration with the firm's legacy systems, the individual business applications are determined and financed by the various business units. Similarly, the CIO of Bausch & Lomb developed a set of standards to create a uniform look and feel for the firm's Web design, though the actual Web implementations are done by various brands through independent portals. In each case, the CIO's role in e-business strategy development is rather limited, focusing on technology provision and infrastructure.

While this approach smoothes over short-term organizational conflict, it poses a number of difficulties. For example, many managers feel that the nature of the CIO's standard responsibilities makes the job inherently incompatible with the CeCO (see Table 1). CIOs sit atop large organizations, some with billion-dollar budgets and thousands of employees, responsible for providing bulletproof services at low cost. They are charged with maintaining large mission-critical legacy systems and may be risk-averse in their use of

technology. While they manage technology vendors and outsourcing, they do not typically create technology alliances to develop revenue-generating opportunities. The CIO may also be reluctant to pursue the younger, faster-paced, higher-priced Internet technology labor market or the more experimental and iterative development approaches at odds with the traditional software development life cycle.

Putting the CeCO in the office of the CIO can be problematic because it would tend to establish the CeCO as a technical person rather than someone who understands business needs and strategy. Accordingly, in our sample we found that CeCOs reporting to CIOs almost always had notably strong technical backgrounds. The CeCO needs to be oriented toward the external market and business strategy; e-business involves reinventing business models, designing processes that interact with customers, and reshaping profit strategies, as well as creatively rebundling products and services. These activities require coordination with the SBUs, possibly cutting across SBUs and functions. Technical workers reporting to CIOs may find it difficult to assert organizational leadership in these areas.

In spite of these factors, our study also found that CIOs play major roles leading e-business efforts, primarily in firms whose strategy emphasizes a business-to-business focus. Respondents highlighted the CIO's pivotal role in integrating business processes across legacy systems and across corporate boundaries in certain vertical markets. We found that among firms describing their e-commerce efforts as business-to-business, 67% had a CIO functioning as the CeCO or had the CeCO reporting to the CIO. Among firms describing their e-commerce as business-to-consumer, only 42% assigned such a direct leadership role to the CIO; we found more product development and marketing executives serving as CeCOs.

The role of CIO is also evolving. The need for scale, rapid integration, and reliability will exceed the capacity of most in-house IT organizations, leading to greater reliance on external technology service partnerships. CIOs will have to disperse their responsibilities among their firms' various business units and look for other ways to lead the e-business effort.

Four Paradigms for Moving Forward
Our research identified four major organizational paradigms for moving a legacy firm into e-business: weak virtual e-business organization; strong virtual e-business organization; direct spin-off; and next-generation firm. Although it is too early in the history of Internet-enabled commerce to determine which one(s) might ultimately dominate, we can already identify at least some of their strengths and weaknesses (see Table 2).

The spin-off and next-generation-firm approaches are the most likely to yield a more focused effort and quicker results. The spin-off may leave the original firm relatively unchanged and unprepared for e-business. The spin-off and weak virtual approaches tend to avoid interorganizational friction—the spin-off by definition and the weak virtual approach by leaving much of the authority and initiative with the SBUs. The decentralized weak virtual approach may result in a fragmented effort that does not achieve a major organizational transformation. Also, trying to initiate change across functions and SBUs in a strong virtual approach is more challenging and more likely to cause conflict than the relatively simple coordination of the e-business activities of disparate SBUs in the weak virtual model. Although most firms experience manifestations of several paradigms at the same time, we found they can be characterized as following a single dominant strategy.

In choosing the right organizational strategy, managers should not let themselves be misdirected or distracted by the five myths described earlier. Rather, they should apply the following guidelines:

▼ **Table 1. Contrasting roles of CIO and CeCO.**

	CIO	CeCO
Orientation	Internal	Internal and external
Performance	Cost/bulletproof	Profit/reinvention
Compensation	Flat	Performance-based
Direct Reports	Many	Few
Charter	Operational	Transformational

▲ **Table 2. Contrasting e-business organizational structures.**

Organization Type	Strengths	Weaknesses
Weak virtual	Broad-based, not disruptive	Not far-reaching, slow
Strong virtual	Broad-based, transformative	Slow, disruptive
Spin-off	Fast, not disruptive	Narrow, unintegrated
Next-generation	Fast, transformative	Disruptive

It's early. Even though some of your competitors are online, it is still early in the game for everyone. The land grab phase is not over, and the first priority should be to establish a comprehensive e-strategy. Continuous improvements and data-driven experimentation put you ahead of your competitors.

Don't expect a single application to transform a business. It is highly unlikely that a single application would transform any business right away. Develop well-designed organizational procedures for rapidly deploying effective e-business solutions for your core business processes. For most legacy firms, the move to e-business is evolutionary, not revolutionary.

You face a massive integration challenge. Integrating e-business into the heart of a firm cannot be solved through acquisition or development of a spin-off; this approach might even make things worse.

Project a single face. It is important to organize efforts in a way that presents a single face to customers, suppliers, and business alliances; maintains system compatibility across business units and functional areas; and identifies opportunities for cross-functional synergies. Your e-business efforts should not be built around a single department but structured to fit with a cross-functional process orientation for the entire firm.

It's not only for technical management. Although implementation of e-business requires the management of complex technologies, it does not mean that e-business leadership should be put in the hands of primarily technical managers. E-business creates opportunities for strategic innovation and should therefore be led by experienced managers with strategic business vision first and technical skills second. An emerging option is to designate a CeCO with strong decision-making authority over the intersection of corporate strategy and the e-business effort.

Firms whose path to an e-strategy is not clearly marked need to organize themselves in ways that allow opportunities for experimentation and learning. Don't expect it to be easy. **C**

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Emerging Role of CeCO

Deborah Sawyer, managing director of Korn/Ferry International, an executive recruiting firm, reports, "We're seeing the need for CeCOs across all industries and in every type of organization we work with. Whether professional services, banking, hospitality, IT, or publishing, the need to quickly ramp up Internet and e-commerce capabilities is turning client organizations on their heads." The stature of the CeCO is also evolving. She adds, "When these types of individuals were first hired, they typically resided in either the chief strategist's office or the office of the CIO. Due to the role's increasing importance to the overall strategy of organizations, the CeCO is now more frequently reporting to the CEO. The ideal candidate is a unique combination of strategist, technologist, and evangelist." **C**