Despite all the positive stories about the Internet, business has a long way to go before it can reap its full benefits. A variety of internal and external inhibitors are preventing many companies from keeping up with the pace of innovation on the Internet. As mobile commerce and other emerging technologies are used to conduct business on the Internet in the future, companies will be forced to embrace them quickly, or succumb to their more techno-savvy, and often younger and smaller competitors. The key to success in the emerging economy will involve identifying and strategically turning organizational barriers to E-business into strengths.

The simple fact is that E-business is becoming the way people conduct business, just as industrialization, electricity, the telephone, and a multitude of other inventions have transformed commerce. By the end of this decade, the terms “E-commerce” and “E-business” will fade into the history books as virtually all companies use computers, the Internet, and Internet-related technologies to not only sell their products, but also to manage their intellectual capital and business processes.

Business will never be the same. By as early as 2005, 25 percent of consumer spending and 70 percent of business-to-business commerce will involve the Internet, according to the Gartner Group.

No one knows for sure exactly how the Internet and E-business will change commerce, yet many pundits are beginning to paint pictures. In a recent series of articles in the Harvard Business Review, four observers offer their thoughts:

**PAYOFF IDEA**

A variety of internal and external inhibitors are preventing many companies from keeping up with the pace of innovation on the Internet. As emerging technologies are used to conduct business on the Internet in the future, companies must embrace them, or succumb to the competition. The key to success in the emerging economy requires identifying the organization barriers to E-business, and turning them into strengths.
1. Harvard business professors Clayton Christensen and Richard Tedlow agree that E-commerce will change the basis of competitive advantage in retailing, where the critical mission has always been getting the right product to the right place at the right time.

2. Nicholas Carr, a senior editor of the *Review*, takes issue with the widespread notion that the Internet will usher in an era of “disintermediation,” in which producers of goods and services bypass wholesalers and retailers to connect directly with customers. Carr says that business is undergoing precisely the opposite phenomenon, which he calls “hypermediation.” Transactions over the World Wide Web will routinely involve all sorts of intermediaries, who, Carr argues, are positioned to capture most of the profits.

3. Adrian Slywotzky, a vice president at Mercer Management Consulting, points out that the Internet will overturn the inefficient push model of supplier–customer interaction, and predicts that in all sorts of markets, customers will use choiceboards — interactive online systems that let people design their own products by choosing from a menu of attributes, prices, and delivery options. Companies will change the way they compete, as the customer is transformed from a passive recipient to an active designer.

No matter how one looks at it, virtually all the experts agree that the Internet is already transforming the way people conduct business. From retail Web sites to Internet-enabled systems for supply purchasing management, procurement, human resources, and knowledge management, many companies are in a frenzy to achieve the massive increases in productivity offered by Internet technologies. In fact, a study by the Internet Research Group and SRI Consulting in early 2000 estimated that U.S. companies spent $153 billion on building up their E-business infrastructure during 1999, and that by 2003, this total will rise to $348 billion.

Although that is a big number, it seems rather small when one considers that the nation spent an estimated $100 billion on remediating the Year 2000 bug alone. It is going to take a lot more investment. As Bill Lamberis writes in *ComputerWorld*, “We’ve barely begun. Very few E-commerce systems have been built to date. Instead, by using the high-tech equivalent of spit and baling wire, IT architects have retrofitted legacy systems to accommodate applications they were never built to handle.”

Unfortunately, the willingness to jump right in and invest and innovate at many organizations is hampered by a series of cultural, logistical, and technical issues. Increasingly, these issues are being identified. In reporting on a recent KPMG survey, *InternetWeek* notes that, “The message from survey participants was loud and clear: They are acutely aware of the need to execute a Web strategy to complement existing business models. But numerous forces undermine the effectiveness of those ef-
forts.” Clearly, these forces must be addressed from both internal and external perspectives before these firms can take full advantage of E-business efficiencies.

THE CULTURAL STUMBLING BLOCK

The advent of the Internet is forcing the business world to go through a massive, unprecedented exercise in managing change. Established companies in traditional industries are just beginning to grapple with the nature and magnitude of such changes. Today and into the future, a company’s success requires challenging traditional assumptions about organization, communication, decision-making, operating style, and managerial behavior. By far, cultural issues represent the biggest E-business stumbling block that many organizations will continue to face — and often internal and external cultural barriers will be at odds with one another.

Internally, the organization may not be staffed and structured properly for the E-business transition. In our change-resistant society, many employees often fear that E-business will change their jobs. Conversely, others may want to jump on the exciting E-commerce bandwagon to work on some “cool Internet stuff,” but at the expense of supporting underlying strategic systems that must continue to be maintained.

Clearly, many individuals lack a clear understanding of E-business and a vision for its potential in their organization. Business managers frequently view E-business as just E-commerce, or the marketing and purchasing of goods over the Internet. They have yet to appreciate the efficiencies created by using the technology to manage business processes and knowledge acquisition, storage, and retrieval.

Even if they understand the full scope of E-business activities, they may have difficulty envisioning how they apply to their business. Take, for example, an executive at a pharmaceutical research group who only saw the Internet as a product delivery mechanism. It took a lot of time and energy to convince him that the Internet could be used to manage knowledge and ultimately speed up the introduction of new drugs to the marketplace. By creating an Internet-based repository of research information, the group enabled pharmaceutical companies to collaborate more quickly on research results, helping to shorten the research and development cycle. And, according to the rule of thumb in the research-intensive, heavily regulated drug business, a company can save approximately $1 million for each day it cuts off the cycle.

If management appreciates such benefits, their efforts to implement an E-business plan may be hampered by rank-and-file employee concerns over their own privacy, because the nature of E-business is collaboration, including information sharing and decision-making. Suddenly, employees become obsessed with the Big Brother thought that “people can see what I am doing every day.”
In some cases, rivalries between units may also make it difficult to innovate. This may especially be the case if the company creates an internal E-business start-up. Other units may resent the resources that the new venture is consuming, and the new venture may have trouble fitting into the stodgy corporate environment, and want to break loose.

A bad previous experience with new technology increases reluctance to change, or sometimes managers feel that they have too many other problems to solve before tackling the Internet. Conversely, past successes can also create a cultural barrier. After all, why change a good thing that has been making money?

Getting over these internal cultural barriers will not be easy. It requires a top-down commitment to change management. Line managers and the rank-and-file will not appreciate the strategic importance of the Internet unless they see senior management leading the effort, and practicing what they preach.

Companies that try to force the issue with employees should be prepared for rapid turnover. Instead, these companies can define current and future business models, educating their workers on how the Web can empower them, and illustrating that they can control E-business processes.

General Electric (GE), for example, is one such company. According to a recent *Wall Street Journal* article, the diversified company’s chief executive officer (CEO) began a mentoring program in which younger Web-savvy employees teach their older, and presumably wiser bosses to embrace the Internet. CEO Jack Welch, 63, has ordered his top 600 managers to reach down into their ranks to find Internet junkies, and become their students. Many of the new teachers are in their 20s and early 30s, and virtually all the pupils are GE veterans whose ages range from the late 30s to nearly 60. Even Mr. Welch has a mentor. Students meet with their teachers as often as a few times a week to surf the Web together, to discuss articles and books the students were assigned to read for homework, and to get answers to their questions.

The CEO of GE Capital uses his mentor to analyze the pluses and minuses of competitors’ sites, and was pleased to discover that certain transactions, such as lending, cannot be completed on a rival’s Web site.

As an alternative solution, many companies have opted to create and spin off “dot.com” operations. In addition to reaping the rewards of huge stock market valuations for such companies, their creators are able to attract the information technology (IT) talent with an entrepreneurial mindset that enables rapid E-business development in the face of growing competition.

In many cases, parent companies hope that they will be able to integrate their dot.com units with the rest of the operations. Several companies have had success with this approach. In a slight variation on the theme, one property/casualty insurer with a 1000+-person IT staff, for
example, purchased an 80-person firm experienced in developing and implementing Web-based strategies.

Six months after making the purchase and investing an additional $5 million, the independent unit created an online claims management system. One year later, the insurer integrated the unit with the rest of its operations. Normally, just building the online system would have taken one to two years.

THE EXTERNAL PERSPECTIVE

Unfortunately, there may be a downside to this segregated approach that may prove detrimental in the short term from an external perspective, and may later complicate integration. A BusinessWeek commentary recently concluded that “by cutting its online offspring loose, [Barnes & Noble] squandered its biggest edge-brand recognition.” In an attempt to take advantage of Internet stock valuations, as well as prevent the cannibalization of its existing storefront businesses and avoid charging sales tax, the company has kept its 40 percent-owned dot.com separate. The problem, as the commentary points out, is that the “existence of the dot.com seems to be a dirty little secret. There’s little mention of it in banners or newsletters throughout the store, and a salesclerk shrugs that ‘it’s a separate company’ when asked about the site. No wonder shopper Lisa Melora goes straight to archival Amazon.com for book hunting online.” Now the company is trying to bring the two units closer together and cross-promote them.

While many marketers can see the benefits of such cross-promotion, and leveraging brand names on the Net, another inhibitor they face is eliminating the cultural fear that online activities and products might not be viewed as trustworthy. And if there is a perception that the quality of service or product is poor, or a Web site is not secure, that may spill over into the company’s traditional offline businesses.

Finally, a major external inhibitor for many companies is how the Internet will change the company’s business model, and affect relationships with customers and sales intermediaries. The perception that the company intends to sell directly to end users and cut out the middlemen — whether they are retailers, manufacturers’ reps, distributors, or agents — can present serious financial consequences. This is particularly true in such highly competitive industries as insurance, in which independent agents tend to represent several different insurers. If independent insurance agents believe that one company is beginning to cut them out of the loop, they will take their business to its competitors. Likewise, retailers that believe they are now competing against manufacturers will no longer want to carry their products.

Furthermore, cutting out the middleman and selling the product on the Web, with its vast repository of information and tools to conduct
searches, encourages price comparisons and the commoditization of products. When prices increase, consumers can easily gravitate toward similar, more competitive products. Innovative concepts such as Price-line.com also turn traditional purchasing upside-down by empowering consumers to set prices they are willing to pay for a product, without regard to brand.

There are several solutions to such external cultural inhibitors. First, it is important for a company to establish a strong digital brand to attract individual and business consumers to a Web site, and to distinguish itself and its products from others.

In many other cases, companies can partner with intermediaries to offer products over the Internet. This concept will be increasingly embraced in the future, as customers view intermediaries as “purchasing consultants.”

Another way to avoid alienating the salesforce is to create some differentiation among products offered on a retail and direct basis. Compaq, for example, sells PCs on its own Web site as well as via the telephone. But the models it offers are custom-built, primarily for the more sophisticated computer user who would not want to buy the off-the-shelf models available in retail stores.

LOGISTICAL NIGHTMARES

After culture, logistical issues are the next major category of inhibitors to E-business development. These barriers can be found in four key areas: fulfillment, customer service, the global economy, and business process reengineering.

The existing fulfillment process may conflict with an E-business approach, and orders may not be fulfilled as advertised. No one needs to be reminded of numerous media reports of E-tailers failing to deliver on time during both the 1998 and 1999 holiday seasons. Toys “R” Us was unable to fulfill some offers placed on its Web site before December 10, 1999, its deadline for Christmas delivery by standard mail. As a result, it dished out $100 coupons to disappointed Internet shoppers who did not get their gifts in time for the holiday.

If a company does not meet the expectation of customers by filling orders correctly and delivering items on time, customers will be turned off to using its Web site. That resentment may also spill over into the company’s storefront operations.

In addition to facing consumers’ wrath, companies will increasingly face class-action lawsuits along with scrutiny and penalties by regulators. In fact, the Federal Trade Commission has warned E-commerce companies that they appear to be in violation of its Mail Order Rule, which was created in 1975 to govern the performance of mail-order sales generated by direct mail, as well as telephone, fax, or computer. The rule states that
mail-order companies must ship purchases within the time specified in their advertising, or, in the absence of a shipment date, within 30 days of receiving a properly completed order. It also requires companies to notify consumers if an order cannot be shipped on time, and to provide them with a new shipping date. The customer must then be given an opportunity to cancel the order, and receive a full refund if any payment has been made.

Fulfillment can also be a problem when the company is accustomed to shipping all its goods to retailers and business customers on palettes. Individual Web site sales may mean that it now has to ship individual items to multiple locations. And, in the case of certain products, which were shipped unassembled to distributors in the past, the company may now have to assemble the product before shipping. Or, if a customer purchases several products that are manufactured in more than one location, it will have the challenge of coordinating one delivery.

Similarly, because the company is dealing with many more customers, it will need to have a substantially larger trained customer service operation. As part of providing good customer service, companies will need to post ordering and merchandise return policies on their sites. Furthermore, they need to better coordinate returns between dot.com sites and the organization’s bricks-and-mortar stores.

Outsourcing customer service and fulfillment obligations to a third party may provide a viable solution to these substantial E-business inhibitors. Package delivery and logistic companies have vast experience in running warehouses, and in filling orders for companies that do not want to handle those complicated tasks on their own. Recently, companies such as United Parcel Service have begun to invest heavily in operations that can run the entire back end of a company, ranging from plucking orders off a warehouse shelf to handling phone calls and returns from customers.

Furthermore, because the Web has no geographical boundaries, the site owner must be prepared to deal with orders not only from out of state, but perhaps from all over the world. On top of the shipping fulfillment and customer service issues, the company now has to deal with foreign currencies and related pricing issues. Conversely, do not expect a great reception if launching a site in such areas as Latin America, where antiquated back-office computer systems, inefficient distribution networks, and widespread credit-card fraud have kept many businesses from jumping online.

In many cases, the best alternative is to partner with companies in foreign markets that understand the local cultural and technical issues. In addition, these partners can handle local logistical issues, eliminating such problems as currency conversion.

Finally, there is the logistical challenge associated with reengineering business processes to dovetail with Internet activities. The company
needs to determine if it should extend existing business processes, or
completely rethink them. This can be a particularly difficult task when
employees and customers resist, and need to be educated on changes.

Just consider what happened when various units at a telecommunications company rushed to put some 50 forms online for customers. Customers placed service orders using the form, but because they were not tied in with back-end systems, they were just spit out as paper on the receiving end.

Chaos can be avoided when a company takes a more holistic and
planned approach to E-business projects. Before launching a new online activity, any strategy should be validated. Initially, a prototype should be built, and project leaders should get buy-in from management and consumers before they build it out, and then integrate it with other systems. Simply put, people need to feel and touch the product before they can trust it.

TECHNICAL HURDLES

Obviously, without the technology and the technical talent, no company is going to get its E-business plan off the ground. And in this regard, companies often face considerable challenges. Large companies typically will have a more difficult and longer time implementing new technologies. This can put them at a substantial disadvantage compared to smaller, entrepreneurial firms that are operating at Internet speed. As previously discussed, many companies have chosen to solve this problem by turning their E-business operations into a separate entity.

To be effective, any E-business system must be integrated with legacy systems. Web site ordering must often be connected to the back-room mainframes involved with billing, inventory control, customer service, and other functions. Unfortunately, life cycles in the legacy world tend to be longer, and orchestrating systems integration is difficult. The solution involves developing separate Internet deliverable schedules, and then integrating them with the legacy life cycle.

Retooling to an E-business environment will likely require companies to staff up. That is no small challenge considering the demand for IT talent in an already tight job market. Staff shortages are further compounded by the fact that many organizations lack a central decision-maker for E-business. In fact, according to a KMPG survey, 75 percent percent of respondents did not have a central decision-maker. Many companies have multiple departments involved in E-business initiatives, all competing for talent and funding, and to be the leader.

Selecting the right tools is another formidable inhibitor. There are so many different tools to choose from, and providers update them constantly. Researching differences among applications and the company’s existing expertise with them are a good way to solve the problem. This may
also prove beneficial, particularly for smaller and mid-sized organizations, to partner with an applications service provider (ASP). For a monthly fee, the ASP will allow the company to test out an application before the company determines to purchase it. However, keep in mind that an ASP provides little scalability, and few legacy integration capabilities.

In addition to improving technical capabilities, site owners must continually update content, as well as look-and-feel. Users must be able to expeditiously navigate around a site and find the content they desire. And, especially in light of the recent denial-of-service attacks by hackers, organizations must employ state-of-the-art security measures. Users must feel secure enough to divulge information or perform a transaction. Company or property information must remain secure from external or other unauthorized access.

Finally, if business unit and IT managers are going to get the financial support for E-business initiatives, they must continue to convince management that E-business systems are worthwhile investments. The return on investment needs to be measured and communicated. It is important to consider how well a site is doing, how many orders are being processed, and how it can be improved.

These are steps necessary to build support and trust for E-business activities among management, rank-and-file employees, product distributors, and customers. Trust is fundamental — and it is perhaps the one challenge to E-commerce that cuts across all of the others. It is not easy to obtain.

The company must back E-business activities with a strong commitment, and technical and logistical management. Otherwise, it will all be a foolish investment that not only does not pay off, but costs the organization its credibility and competitive position.

Too many companies make minor mistakes that chip away at their credibility. A survey by a provider of error-detection and prevention tools, for example, revealed that Web sites are riddled with errors. The survey found an average of one link error per 3.5 pages, and more than 12 HTML errors per page. Such errors can be easily avoided.

Even when an organization tries hard to maintain trust, it must be prepared for the unknown. Take the experience of the head of an online loan site, who knew people would be wary of supplying their salaries, savings, and other financial information over the Internet. Encryption systems were employed so hackers could not intercept loan applications; more than $250,000 was spent for outside security audits; and consumers were assured that their privacy was the top concern. And, although the site was secure, little did the site owner know that his customers’ confidence has been violated: an auto loan site his company purchased and linked to its site used cookies to track every visitor.

Clearly, surviving in the new E-business environment will not be simple. Just consider how many companies failed to meet the challenges
brought on them by industrialization and electrification a century ago. Many could not grasp that these innovations were going to change the essential processes for manufacturing and selling products. They did not adapt; so they did not survive. But those companies that did adapt, grew into today’s superpowers of industry.

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