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A fundamental shift in the economics of information is under way—a shift that is less about any specific new technology than about the fact that a new behavior is reaching critical mass. Millions of people at home and at work are communicating electronically using universal, open standards. This explosion in connectivity is the latest—and, for business strategists, the most important—wave in the information revolution.

Over the past decade, managers have focused on adapting their operating processes to new information technologies. Dramatic as those operating changes have been, a more profound transformation of the business landscape lies ahead. Executives—and not just those in high-tech or information companies—will be forced to rethink the strategic fundamentals of their businesses. Over the next decade, the new economics of information will precipitate changes in the structure of entire industries and in the ways companies compete.

Early signs of this change are not hard to find. Consider the recent near-demise of Encyclopædia Britannica, one of the strongest and best-known brand names in the world. Since 1990, sales of Britannica’s multivolume sets have plummeted by more than 50%. CD-ROMs came from nowhere and devastated the printed encyclopedia business as we traditionally understand it.

How was that possible? The Encyclopædia Britannica sells for somewhere in the region of $1,500 to $2,200. An encyclopedia on CD-ROM, such as Microsoft Encarta, sells for around $50. And many people get Encarta for free because it comes with their per-

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personal computers or CD-ROM drives. The cost of producing a set of encyclopedias—printing, binding, and physical distribution—is about $200 to $300. The cost of producing a CD-ROM is about $1.50. This is a spectacular, if small, example of the way information technologies and new competition can disrupt the conventional value proposition of an established business.

Imagine what the people at Britannica thought was happening. The editors probably viewed CD-ROMs as nothing more than electronic versions of inferior products. Encarta’s content is licensed from the Funk & Wagnalls encyclopedia, which was historically sold in supermarkets. Microsoft merely slurred up that content with public-domain illustrations and movie clips. The way Britannica’s editors must have seen it, Encarta was not an encyclopedia at all. It was a toy.

Judging from their inaction, Britannica’s executives failed to understand what their customers were really buying. Parents had been buying Britannica less for its intellectual content than out of a desire to do the right thing for their children. Today when parents want to “do the right thing,” they buy their kids a computer.

The computer, then, is Britannica’s real competitor. And along with the computer come a dozen CD-ROMs, one of which happens to be—as far as the customer is concerned—a more-or-less perfect substitute for the Britannica.

When the threat became obvious, Britannica did create a CD-ROM version—but to avoid undercutting the sales force, the company included it free with the printed version and charged $1,000 to anyone buying the CD-ROM by itself. Revenues continued to decline. The best salespeople left. And

The way Britannica’s editors must have seen it, Encarta wasn’t an encyclopedia, it was a toy.

Britannica’s owner, a trust controlled by the University of Chicago, finally sold out. Under new management, the company is now trying to rebuild the business around the Internet.

Britannica’s downfall is more than a parable about the dangers of complacency. It demonstrates how quickly and drastically the new economics of information can change the rules of competition, allowing new players and substitute products to render obsolete such traditional sources of competitive advantage as a sales force, a supreme brand, and even the world’s best content.

When managers hear this story, many respond, “Interesting, but it has nothing to do with my business. Britannica is in an information business. Thank goodness I’m not.” They feel less secure, however, when they learn that the largest chunk of Britannica’s cost structure was not the editorial content—which constituted only about 5% of costs—but the direct sales force. Britannica’s vulnerability was due mainly to its dependence on the economics of a different kind of information: the economics of intensive personal selling. Many businesses fit that description, among them automobiles, insurance, real estate, and travel.

Every Business Is an Information Business

In many industries not widely considered information businesses, information actually represents a large percentage of the cost structure. About one-third of the cost of health care in the United States—some $300 billion—is the cost of capturing, storing, and processing such information as patients’ records, physicians’ notes, test results, and insurance claims.

More fundamentally, information is the glue that holds together the structure of all businesses. A company’s value chain consists of all the activities it performs to design, produce, market, deliver, and support its product. The value chains of companies that supply and buy from one another collectively make up an industry’s value chain, its particular configuration of competitors, suppliers, distribution channels, and customers.1

When we think about a value chain, we tend to visualize a linear flow of physical activities. But the value chain also includes all the information that flows within and between a company and its suppliers, its distributors, and its existing or potential customers. Supplier relationships, brand identity, process coordination, customer loyalty, employee loyalty, and switching costs all depend on various kinds of information.

When managers talk about the value of customer relationships, for example, what they really mean is the proprietary information that they have about their customers and that their customers have about the company and its products. Brands, after all, are nothing but the information—real or imagined, intellectual or emotional—that consumers
have in their heads about a product. And the tools used to build brands—advertising, promotion, and even shelf space—are themselves information or ways of delivering information.

Similarly, information defines supplier relationships. Having a relationship means that two companies have established certain channels of communication built around personal acquaintance, mutual understanding, shared standards, electronic data interchange (EDI) systems, or synchronized production systems.

In any buyer-seller relationship, information can determine the relative bargaining power of the players. Auto dealers, for example, know the best local prices for a given model. Customers—unless they invest a lot of time shopping around—generally do not. Much of the dealer’s margin depends on that asymmetry of information.

Not only does information define and constrain the relationship among the various players in a value chain, but in many businesses it also forms the basis for competitive advantage—even when the cost of that information is trivial and the product or service is thoroughly physical. To cite some of the best-known examples, American Airlines for a long time used its control of the SABRE reservation system to achieve higher levels of capacity utilization than its competitors. Wal-Mart has exploited its EDI links with suppliers to increase its inventory turns dramatically. And Nike has masterfully employed advertising, endorsements, and the microsegmentation of its market to transform sneakers into high-priced fashion goods. All three companies compete as much on information as they do on their physical product.

In many ways, then, information and the mechanisms for delivering it stabilize corporate and industry structures and underlie competitive advantage. But the informational components of value are so deeply embedded in the physical value chain that, in some cases, we are just beginning to acknowledge their separate existence.

When information is carried by things—a salesperson or by a piece of direct mail, for example—it goes where the things go and no further. It is constrained to follow the linear flow of the physical value chain. But once everyone is connected electronically, information can travel by itself. The traditional link between the flow of product-related information and the flow of the product itself, between the economics of information and the economics of things, can be broken. What is truly revolutionary about the explosion in connectivity is the possibility it offers to unbundle information from its physical carrier.

### The Trade-Off Between Richness and Reach

Let’s back up for a minute to consider why this is such a revolutionary proposition. To the extent that information is embedded in physical modes of delivery, its economics are governed by a basic law: the trade-off between richness and reach. *Reach* simply means the number of people, at home or at work, exchanging information. *Richness* is defined by three aspects of the information itself. The first is *bandwidth,* or the amount of information that can be moved from sender to receiver in a given time. Stock quotes are narrowband; a film is broadband. The second aspect is the degree to which the information can be *customized.* For example, an advertisement on television is far less customized than a personal sales pitch but reaches far more people. The third aspect is *interactivity.* Dialogue is possible for a small group, but to reach millions of people the message must be a monologue.

In general, the communication of rich information has required proximity and dedicated channels whose costs or physical constraints have limited
the size of the audience to which the information could be sent. Conversely, the communication of information to a large audience has required compromises in bandwidth, customization, and interactivity. (See the graph "The Traditional Economics of Information.") This pervasive trade-off has shaped how companies communicate, collaborate, and conduct transactions internally and with customers, suppliers, and distributors.

A company's marketing mix, for example, is determined by apportioning resources according to this trade-off. A company can embed its message in an advertisement, a piece of customized direct mail, or a personal sales pitch—alternatives increasing in richness but diminishing in reach.

When companies conduct business with one another, the number of parties they deal with is inversely proportional to the richness of the information they need to exchange: Citibank can trade currencies with hundreds of other banks each minute because the data exchange requires little richness; conversely, Wal-Mart has narrowed its reach by moving to fewer and larger long-term supplier contracts to allow a richer coordination of marketing and logistical systems.

Within a corporation, traditional concepts of span of control and hierarchical reporting are predicated on the belief that communication cannot be rich and broad simultaneously. Jobs are structured to channel rich communication among a few people standing in a hierarchical relationship to one another (upward or downward), and broader communication is effected through the indirect routes of the organizational pyramid. Indeed, there is an entire economic theory [pioneered by Ronald H. Coase and Oliver E. Williamson] suggesting that the boundaries of the corporation are set by the economics of exchanging information: organizations enable the exchange of rich information among a narrow, internal group; markets enable the exchange of thinner information among a larger, external group. The point at which one mode becomes less cost-effective than the other determines the boundaries of the corporation.

The trade-off between richness and reach, then, not only governs the old economics of information but also is fundamental to a whole set of premises about how the business world works. And it is precisely this trade-off that is now being blown up.

The rapid emergence of universal technical standards for communication, allowing everybody to communicate with everybody else at essentially zero cost, is a sea change. And it is as much the agreement on standards as the technology itself that is making this change possible. It's easy to get lost in the technical jargon, but the important principle here is that the same technical standards underlie all the so-called Net technologies: the Internet, which connects everyone; extranets, which connect companies to one another; and intranets, which connect individuals within companies.

Those emerging open standards and the explosion in the number of people and organizations connected by networks are freeing information from the channels that have been required to exchange it, making those channels unnecessary or uneconomical. Although the standards may not be ideal for any individual application, users are finding that they are good enough for most purposes today. And they are improving exponentially. Over time, organizations and individuals will be able to extend their reach by many orders of magnitude, often with a negligible sacrifice of richness.

Where once a sales force, a system of branches, a printing press, a chain of stores, or a delivery fleet served as formidable barriers to entry because they took years and heavy investment to build, in this new world, they could suddenly become expensive liabilities. New competitors on the Internet will be able to come from nowhere to steal customers. Similarly, the replacement of expensive, proprietary, legacy systems with inexpensive, open extranets will make it easier and cheaper for companies to, for example, bid for supply contracts, join a virtual factory, or form a competing supply chain.

Inside large corporations, the emergence of universal, open standards for exchanging information over intranets fosters cross-functional teams and accelerates the demise of hierarchical structures and their proprietary information systems. (See the insert "The End of Channels and Hierarchies.")

The Deconstruction of the Value Chain

The changing economics of information threaten to undermine established value chains in many sectors of the economy, requiring virtually every com-
The End of Channels and Hierarchies

In today's world, rich content passes through media, which we call channels, that can reach only a limited audience. The existence of channels creates hierarchy, both of choice (people have to gather rich information in an order dictated by the structure of the channels) and of power (some people have better access to rich information than others do). Hierarchy of choice is illustrated by the decision tree along which consumers are compelled to do their shopping in the physical world: they must choose a street, then a shop, then a department, then a shelf, then a product. They cannot select in any other sequence. They can return to the street and search along a different path, of course, but only by expending time and effort.

When the trade-off between richness and reach is eliminated, channels are no longer necessary: everyone communicates richly with everyone else on the basis of shared standards. This might be termed hyperarchy after the hyperlinks of the World Wide Web.

Hyperarchy

The World Wide Web is a hyperarchy: So are a deconstructed value chain within a business and a deconstructed supply chain within an industry. So are intranets. So are structures allowing fluid, team-based collaboration at work. So, too, is the pattern of amorphous and permeable corporate boundaries characteristic of the companies in Silicon Valley. (So, too, incidentally, are the architectures of object-oriented programming in software and of packet switching in telecommunications.)

Hyperarchy challenges all hierarchies, whether of logic or of power, with the possibility (or the threat) of random access and information symmetry. It challenges all markets with the possibility that far richer information can be exchanged than that involved in trading products and certificates of ownership. When the principles of hyperarchy are thoroughly understood, they will provide a way to understand not only positioning strategies within businesses and industries but also more fundamental questions of corporate organization and identity.

pany to rethink its strategy—not incrementally, but fundamentally. What will happen, for instance, to category killers such as Toys "R" Us and Home Depot when a search engine on the Internet gives consumers more choice than any store? What will be the point of having a supplier relationship with General Electric when it posts its purchasing requirements on an Internet bulletin board and enter-

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copy, editors lay it out, presses create the physical product, and an elaborate distribution system delivers it to readers each morning.

Newspaper companies exist as intermediaries between the journalist and the reader because there are enormous economies of scale in printing and distribution. But when high-resolution electronic tablets advance to the point where readers consider them a viable alternative to newsprint, those traditional economies of scale will become irrelevant. Editors—or even journalists—will be able to E-mail content directly to readers.

Freed from the necessity of subscribing to entire physical newspapers, readers will be able to mix and match content from a virtually unlimited number of sources. News could be downloaded daily from different electronic-news services. Movie reviews, recipes, and travel features could come just as easily from magazine or book publishers. Star columnists, cartoonists, or the U.S. Weather Service could send their work directly to subscribers. Intermediaries—search engines, alert services, formatting software, or editorial teams—could format and package the content to meet readers' individual interests. It does not follow that all readers will choose to unbundle all the current content of the physical newspaper, but the principal logic for that bundle—the economics of printing—will be gone.

This transformation is probably inevitable but distant. As newspaper executives correctly point out, the broadsheet is still an extraordinarily cheap and user-friendly way to distribute information. Little electronic tablets are not going to replace it very soon.

However, the timing of total deconstruction is not really the issue. Pieces of the newspaper can be print marketplace to provide an integrated print and electronic offering that reaches the widest population of buyers and sellers. This electronic offering preserves the margins of 60% to 80% that newspapers need from the classifieds to cover their fixed printing costs.

But as more and more people use the electronic medium, companies focused on targeted segments of the electronic-classifieds market (operating on, say, 15% margins) will gain share. The greater their share, by definition, the more attractive they will become to buyers and sellers. Eventually, the newspapers will either lose business or (more likely) retain it by settling for much lower margins.

Either way, the subsidy that supports the fixed costs of the print product will be gone. So newspapers will cut content or raise prices for readers and advertisers, accelerating their defection. That, in turn, will create opportunities for another focused competitor to pick off a different part of the value chain. Thus the greatest vulnerability for newspapers is not the total substitution of a new business model but a steady erosion through a sequence of partial substitutions that will make the current business model unsustainable.

Retail banking is ripe for a similar upheaval. The current business model depends on a vertically integrated value chain through which multiple products are originated, packaged, sold, and cross-sold through proprietary distribution channels. The high costs of distribution drive economies of utilization and scale and thus govern strategy in retail banking as it works today.

Home electronic banking looks at first glance like another, but cheaper, distribution channel. Many banks see it that way, hoping that its widespread adoption might enable them to scale down their higher-cost physical channels. Some banks are even offering proprietary software and electronic transactions for free. But something much deeper has happened than the emergence of a new distribution channel. Customers now can access information and make transactions in a variety of new ways.

Some 10 million people in the United States regularly use personal-financial-management software such as Intuit's Quicken or Microsoft Money to manage their checkbooks and integrate their personal financial affairs. Current versions of these programs can use modems to access electronic switches operated by CheckFree or VISA Interactive, which in turn route instructions or queries to the customers' banks. Such a system lets customers

Retail banks will not become obsolete, but their current business definition will.

unbundled today. Classified advertising is a natural on-line product. Think how much easier it would be to submit, pay for, update, search through, and respond to classified ads electronically. Stripping away classifieds, however, would remove 25% of the typical newspaper's revenues but less than 10% of its costs.

Newspaper companies have moved aggressively into the electronic-classifieds business. They have exploited their advantage as makers of the original
pay bills, make transfers, receive electronic statements, and seamlessly integrate account data into their personal financial plans. In addition, almost all financial institutions supply information at their Web sites, which anybody on-line can access using a browser.

No single software program can achieve both richness and reach, yet. Quicken, Money, and proprietary bank software permit rich exchanges but only with the customer's own bank. Web browsers do much less but reach the entire universe of financial institutions. However, the software vendors and switch providers have the resources, and ultimately will be motivated, to form alliances with financial institutions to eliminate this artificial trade-off. Bridges between financial management software and the Web, combined with advances in reliability, security, digital signatures, and legally binding electronic contracts, will enable financial Web sites to provide the full range of banking services.

If that happens, the trade-off between richness and reach will be broken. Customers will be able to contact any financial institution for any kind of service or information. They will be able to maintain a balance sheet on their desktop, drawing on data from multiple institutions. They will be able to compare alternative product offerings and to sweep funds automatically between accounts at different institutions. Bulletin boards or auctioning software will allow customers to announce their product requirements and accept bids. Chat rooms will permit customers to share information with each other or get advice from experts.

The sheer breadth of choice available to potential customers will create the need for third parties to play the role of navigator or facilitating agent. For example, some companies will have an incentive to create [or simply make available] databases on interest rates, risk ratings, and service histories. Others will create insurance and mortgage calculators or intelligent-agent software that can search for and evaluate products. Still other companies will authenticate the identity of counterparties or serve as guarantors of performance, confidentiality, or creditworthiness. (See the diagram "The Transformation of Retail Banking").

As it becomes easier for customers to switch from one supplier to another, the competitive value of one-stop shopping and established relationships will drop. Cross-selling will become more difficult. Information about customers' needs or behavior will be harder for companies to obtain. Competitive advantage will be determined product by product, and therefore providers with broad product lines will lose ground to focused specialists.

In this new world, distribution will be done by the phone company, statements by financial management software, facilitation by different kinds of agent software, and origination by any number of different kinds of product specialists. The integrated value chain of retail banking will have been deconstructed.

Deconstructed but not destroyed. All the old functions will still be performed, as well as some new ones. Banks will not become obsolete, but their current business definition will—specifically, the concept that a bank is an integrated business where multiple products are originated, packaged, sold, and cross-sold through proprietary distribution channels.

Many bankers—like encyclopedia executives—deny all this. They argue that most customers do not have personal computers and that many who do are not choosing to use them for banking. They point out that people worry about the security of on-line transactions and that consumers trust banks more than they trust software companies. All true. However, on-line technology is advancing inexorably. And because they generate a dispropor-
The Transformation of Retail Banking

In today's integrated business model, the retail bank stands between the customer and the full range of financial services. But soon, through Internet technologies, customers will have direct access to product providers. As choices proliferate, totally new businesses will arise to help customers navigate through the expanded range of banking options.

Integrated Business Model

Product origination and packaging

Mainframes

Transaction processing and account origination

ATMs

800-numbers

Tellers

Retail sales and distribution

Reconfigured Business Model

Product Originators

Navigators

Bank

Mutual Fund Manager

Investment Bank

Marketing Database

Retail Bank

Lycos

Yahoo!

PHOTOS: LEFT, PHOTODISC; RIGHT, STEPHEN SIMPSON/FPG
tionate share of deposits and fees, the 10% of the population that currently use personal-finance-management software probably account for 75% of the profits of the banking system.

Market research suggests that Quicken users are more likely to be loyal to their software than to their banks. In one study, half of them said that if they were changing banks anyway, they would require their bank to support the software—that is, allow them to transact their business on-line using Quicken. Now, bank accounts churn at the rate of about 10% per year. If a bank that doesn’t support Quicken loses half of the new Quicken-using customers it might otherwise attract every year, and if such customers churn at the average rate, then it follows that the bank will lose 3% to 5% of its retail-customer margin per year. Refusal to support Quicken (or provide an acceptable alternative) could undermine the entire value of a franchise within just a few years.

The deconstruction of the value chain in banking is not unprecedented. Fifteen years ago, corporate banking was a spread business—that is, banks made money by charging a higher interest rate for loans than they paid for deposits. Their business model required them to form deep relationships with their corporate customers so that they could pump their own products through that distribution system. But then, thanks to technology, corporate customers gained access to the same financial markets that the banks used. Today, corporate banking consists of small businesses that largely stand alone (even when they function under the umbrella of a big bank) and compete product by product. Credit flows directly from the ultimate lender to the ultimate borrower, facilitated by bankers who rate the risk, give advice, make markets, and serve as custodians. The bankers make money through the fees they charge for those individual services. Clients no longer bundle their purchases, and relationships are more volatile. Once critical, an advantage in distribution today counts for little.

Newspapers and banking are not special cases. The value chains of scores of other industries will become ripe for unbundling. The logic is most compelling—and therefore likely to strike soonest—in information businesses where the cost of physical distribution is high: newspapers, ticket sales, insurance, financial information, scientific publishing, software, and of course encyclopedias. But in any business whose physical value chain has been compromised for the sake of delivering information, there is an opportunity to unbundle the two, creating a separate information business and allowing (or compelling) the physical one to be streamlined.

All it will take to deconstruct a business is a competitor that focuses on the vulnerable sliver of information in its value chain. (See the insert “What Will Happen to Your Business?”)

Implications for Competitive Advantage

Deconstructing a vertically integrated value chain does more than transform the structure of a business or an industry—it alters the sources of competitive advantage. The new economics of information therefore not only present threats to established businesses but also represent a new set of opportunities. Every industry will shift according to its own dynamics, and those shifts will occur at different speeds and with varying intensity. No single set of predictions can be applied across the board, but some fundamental strategic implications of the changing economics of information can be drawn:

Existing value chains will fragment into multiple businesses, each of which will have its own sources of competitive advantage. When individual functions having different economies of scale or scope are bundled together, the result is a compromise of each—an averaging of the effects. When the bundles of functions are free to re-form as separate businesses, however, each can exploit its own sources of competitive advantage to the fullest.

What Will Happen to Your Business?

All businesses will eventually be affected by the shifting economics of information, but not all at the same rate or in the same way. Answers to the following questions are a first step in determining how a business could be restructured:

1. How and where in the current value chain of this business is information a component of value?
2. Where are trade-offs currently being made between richness and reach in this business?
3. In what situations will these trade-offs be eliminated?
4. Which activities—especially informational activities—could be peeled off as stand-alone businesses?
5. Could the underlying physical business be run more efficiently if the information functions were stripped away?
6. What new activities—especially facilitating-agent roles—might be required?
7. Among the successor businesses, how would risks and rewards be distributed?
8. How would losing control over key activities affect the profitability of the current business model?
9. Which current strategic assets could become liabilities?
10. What new capabilities are needed to dominate the new businesses that will emerge?
Take, for example, car retailing in the United States. Dealerships provide information about products in showrooms and through test-drives. They hold inventory and distribute cars. They broker financing. They make a market in secondhand cars. They operate maintenance and repair services. Although most of these activities are physical, the bundle of functions is held together by the classic informational logic of one-stop shopping. A dealer’s competitive advantage is therefore based on a mixture of location, scale, cost, sales force management, quality of service, and affiliations with car manufacturers and banks.

Bundling these functions creates compromises. Each step in the value chain has different economies of scale. If the functions were unbundled, specialty companies that offer test-drives could take cars to prospective buyers’ homes. Distributors of new cars could have fewer and larger sites in order to minimize inventory and transportation costs. Providers of after-sales service would be free to operate more and smaller local facilities to furnish better service. Auto manufacturers could deliver product information over the Internet. And car purchasers could obtain financing by putting their business out for bid via an electronic broker. Eliminate the informational glue that combines all these functions in a single, compromised business model, and the multiple businesses that emerge will evolve in radically different directions.

Some new businesses will benefit from network economies of scale, which can give rise to monopolies. In a networked market, the greater the number of people connected, the greater the value of being connected, thus creating network economies of scale. There is no point, for example, in being the only person in the world who owns a telephone. As the number of people who own telephones rises, the value to any one individual of hooking up increases progressively.

This self-reinforcing dynamic builds powerful monopolies. Businesses that broker information, make markets, or set standards are all taking advantage of this dynamic. The implication: the first company to achieve critical mass will often take all, or nearly all—although the continuing battle between first-mover Netscape and Microsoft in the market for network browsers illustrates that the lead of the first mover is not always definitive.

Reaching critical mass can be an enormous challenge. General Electric may have solved the problem by using its own huge purchasing power. GE has opened its internal electronic-procurement system to other buyers of industrial goods, turning its own sourcing system into a market-making business.

As value chains fragment and reconigure, new opportunities will arise for purely physical businesses. In many businesses today, the efficiency of the physical value chain is compromised for the purpose of delivering information. Shops, for example, try to be efficient warehouses and effective merchandisers simultaneously and are often really neither. The new economics of information will create opportunities to rationalize the physical value chain, often leading to businesses whose physically based sources of competitive advantage will be more sustainable.

Consider the current battle in bookselling. Amazon.com, an electronic retailer on the Web, has no physical stores and very little inventory. It offers an electronic list of 2.5 million books, ten times larger than that of the largest chain store, and customers can search through that list by just about any criterion. Amazon orders most of its books from two industry wholesalers in response to customers’ requests. It then repacks and mails them from a central facility.

Amazon cannot offer instant delivery; nor can customers physically browse the shelves the way
they can in a traditional bookstore. Its advantages are based on superior information and lower physical costs. Customers can, for example, access book reviews. They have greater choice and better searching capabilities. And Amazon saves money on inventory and retail space.

But Amazon's success is not a given. The discount chains are aggressively launching their own Web businesses. There is nothing defensible about Amazon's wide selection since it really comes from publishers' and wholesalers' databases. By double-handling the books, Amazon still incurs unnecessary costs.

In fact, the wholesalers in the book industry could probably create the lowest-cost distribution system by filling customers' orders directly. If competition pushes the industry in that direction, electronic retailers would become mere search engines connected to somebody else's database—and that would not add much value or confer on them much of a competitive advantage. The wholesalers could be the big winners.

When a company focuses on different activities, the value proposition underlying its brand identity will change. Because a brand reflects its company's value chain, deconstruction will require new brand strategies. For instance, the importance of branches and automated teller machines today leads many banks to emphasize ubiquity in their brand image (Citibank, for example). However, the reconfiguration of financial services might lead a company to focus on being a product provider. For such a strategy, performance becomes the key message, as it is for Fidelity. Another brand strategy might focus on helping customers navigate the universe of third-party products. The key message would be trust, as it is for Charles Schwab.

New branding opportunities will emerge for third parties that neither produce a product nor deliver a primary service. Navigator or agent brands have been around for a long time. The Zagat guide to restaurants and Consumer Reports are two obvious examples. It's Zagat's own brand—its credibility in restaurant reviewing—that steers its readers toward

Where the New Businesses Will Emerge

In a world of limited connectivity, choices at each point in the value chain are, by definition, finite. In contrast, broadband connectivity means infinite choice. But infinite choice also means infinite bewilderment. This navigation problem can be solved in all sorts of ways, and each solution is a potential business.

The navigator could be a database. The navigator could be a search engine. The navigator could be an intelligent-agent software. The navigator could be somebody giving advice. The navigator could be a brand providing recommendations or endorsements.

The logic of navigation can be observed in a number of businesses in which choice has proliferated. People often react to clutter by going back to the tried and true. Customer research indicates that people faced with complex choices either gravitate toward dominant brands or confine their search to narrow formats, each offering a prescribed set of alternatives. In the grocery store, for example, where the number of products has quadrupled over the last 15 years, hundreds of segmented specialty brands have gained market share in almost every category. But so have the one or two leading brands. The proliferation of choice has led to the fragmentation of the small brands and the simultaneous concentration of the large ones. The losers are the brands in the middle.

Similarly, television viewers seem to flock to the hit shows without caring which network those shows are on. But they select specialty programming, such as nature documentaries or music video, by tuning in to a cable channel offering that format. Likewise, the viewer selects the channel, and the channel selects the content. In the first case, the product's brand pulls volume through the channel; in the second, the channel's brand pushes content toward receptive viewers.

Those two approaches by the consumer yield different patterns of competitive advantage and profitability. Networks need hit shows more than the hit shows need any network. The producers have the bargaining power and therefore receive the higher return. Conversely, producers of low-budget nature documentaries need a distributor more than the distributor needs any program, and the profit pattern is, therefore, the reverse. In one year, the popular comedian Bill Cosby earned more than the entire CBS network—Discovery Channel probably earns more than all of its content providers put together. Despite the fact that CBS's 1996 revenues were about six times those of the Discovery Channel, Discovery's 52% profit margin dwarfed CBS's 4%.

The economics playing out in the television industry are a model for what will likely emerge in the world of universal connectivity. Think of it as two different value propositions: one is a focus on popular content; the other, a focus on navigation.

Navigation might have been the right strategy for Encyclopedia Britannica in responding to the threat from CD-ROMs. Its greatest competitive asset, after all, was a brand that certified high-quality, objective information. Given the clutter of cyberspace, what could be more compelling than a Britannica-branded guide to valuable information on the Internet?

If Britannica's executives had written off their sales force, if they had built alliances with libraries and scientific journals, if they had built a Web site that had hot links directly to original sources, if they had created a universal navigator to valuable and definitive information validated by the Encyclopedia Britannica brand, they would have been heroes. They might have established a monopoly, following the example of Bill Gates. In fact, he might have been forced to acquire them.
a particular establishment. A more recent example is the Platform for Internet Content Selection (PICS), a programming standard that allows browsers to interpret third-party rating labels on Web sites. With it a parent might search for sites that have been labeled “safe for children” by EvaluWeb. PICS enables anybody to rate anything, and it makes those ratings ubiquitous, searchable, sortable, and costless. The dramatic proliferation of networked markets increases the need for such navigators and other facilitating agents, those that guarantee a product's performance or assume risk, for example. Thus there will be many new opportunities to develop brands. [See the insert “Where the New Businesses Will Emerge.”]

Bargaining power will shift as a result of a radical reduction in the ability to monopolize the control of information. Market power often comes from controlling a choke point in an information channel and extracting tolls from those dependent on the flow of information through it. For example, sellers to retail customers today use their control over the information available to those customers to minimize comparison shopping and maximize cross-selling. But when richness and reach extend to the point where such channels are unnecessary, that game will stop. Any choke point could then be circumvented. Buyers will know their alternatives as well as the seller does. Some new intermediaries—organizers of virtual markets—may even evolve into aggregators of buying power, playing suppliers off against one another for the benefit of the purchasers they represent.

Customers’ switching costs will drop, and companies will have to develop new ways of generating customer loyalty. Common standards for exchanging and processing information and the growing numbers of individuals accessing networks will drastically reduce switching costs.

Proprietary EDI systems, for example, lock companies into supply relationships. But extranets linking companies with their suppliers using the Internet’s standard protocols make switching almost costless. The U.S. auto industry is creating such an extranet called the Automotive Network eXchange (ANX). Linking together auto manufacturers with several thousand automotive suppliers, the system is expected to save its participants around a billion dollars a year, dramatically reduce ordering and billing errors, and speed the flow of information to second- and third-tier suppliers. By reducing switching costs and creating greater symmetry of information, ANX will intensify competition at every level of the supply chain.

Incumbents could easily become victims of their obsolete physical infrastructures and their own psychology. Assets that traditionally offered competitive advantages and served as barriers to entry will become liabilities. The most vulnerable companies are those currently providing information that could be delivered more effectively and inexpensively electronically—for example, the physical parts of sales and distribution systems, such as branches, shops, and sales forces. As with newspapers, the loss of even a small portion of customers to new distribution channels or the migration of a high-margin product to the electronic domain can throw a business with high fixed costs into a downward spiral.

It may be easy to grasp this point intellectually, but it is much harder for managers to act on its implications. In many businesses, the assets in question are integral to a company’s core competence. It is not easy psychologically to withdraw from assets so central to a company’s identity. It is not easy strategically to downsize assets that have high fixed costs when so many customers still prefer the current business model. It is not easy financially to cannibalize current profits. And it is certainly not easy to squeeze the profits of distributors to whom one is tied by long-standing customer relationships or by franchise laws.

Newcomers suffer from none of these inhibitions. They are unconstrained by management traditions, organizational structures, customer relationships, or fixed assets. Recall the cautionary tale of Encyclopaedia Britannica. Executives must mentally deconstruct their own businesses. If they don’t, someone else will.

1. For a complete discussion of the value chain concept, see Michael Porter’s Competitive Advantage (New York: The Free Press, 1985). Differences in value chains—that is, differences in how competitors perform strategic activities or differences in which activities they choose to perform—are the basis for competitive advantage.


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