## Harvard Business School Case Selections (Reprint)

哈佛商学案例精选集

(英文影印版)

商务基础系列 Business Fundamentals Series

企业和因特网 (第二版)

# Business the Internet (Second Edition)

Nicholas G. Carr

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Business Fundamentals from Harvard Business School Publishing

## **BUSINESS AND THE INTERNET**



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## INTRODUCTION

Welcome to the Business Fundamentals series from Harvard Business School Publishing!

The readings in this collection were developed for the MBA and executive programs of Harvard Business School. These programs rely heavily on the case method of instruction, in which students analyze and discuss firsthand accounts of actual management situations. Students also learn the fundamentals of what managers do: how they measure performance, make choices, and organize their activities. At Harvard Business School, the fundamentals are often taught through background notes, which describe business processes, management techniques, and industries.

The collections in this series are not meant to be comprehensive, but to present the fundamentals of business. Each collection contains several notes, and perhaps an article or two, that provide a framework for understanding a particular business topic or function.

Business is not an exact science. Your own business knowledge comes from your own experiences and observations, accumulated over many years of practice. These collections aim to give you a framework for past and future experiences, using many of the same materials taught at Harvard Business School.

The Business Fundamentals collections are designed for both individual study and facilitated training. If you want to use this collection for self-study, we've provided a summary, outline, learning objectives, and questions for each reading to help you get started. If these readings are part of a training program in your company, you will find them to be a rich resource for discussion and group work.

You can search for related materials on our Web site: <a href="www.hbsp.harvard.edu">www.hbsp.harvard.edu</a>. We hope that your learning experience will be a rich one.

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## THE FUTURE OF COMMERCE

(A.J. Slywotzky; C.M. Christensen; R.S. Tedlow; N.G. Carr / #r00112 / 9 p)

### **Summary**

As we enter the twenty-first century, the business world is consumed by questions about e-commerce. In this article, four close observers of e-commerce speculate about the future of commerce. Adrian Slywotzky believes the Internet will overturn the inefficient push model of supplier-customer interaction. He predicts that in all sorts of markets, customers will use choiceboards – interactive, on-line systems that let people design their own products by choosing from a menu of attributes, prices, and delivery options. And he explores how the shifting role of the customer – from passive recipient to active designer – will change the way companies compete.

Clayton Christensen and Richard Tedlow agree that e-commerce, on a broad level, will change the basis of competitive advantage in retailing. The essential mission of retailers – getting the right product in the right place at the right price at the right time – is a constant. But over the years retailers have fulfilled that mission differently thanks to a series of disruptive technologies. The authors identify patterns in the way that previous retailing transformations have unfolded to shed light on how retailing may evolve in the Internet era.

Nicholas Carr 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 their customers. Business is undergoing precisely the opposite phenomenon – what he calls hypermediation. Transactions over the Web routinely involve all sorts of intermediaries. It is these middlemen that are positioned to capture most of the profits.

#### **Outline**

#### The Age of the Choiceboard

From Product Taker to Product Maker The Coming Dominance of Choiceboards Changing the Terms of Competition The War of the Choiceboards

#### **Patterns of Disruption in Retailing**

Department Stores as Disruptive Innovators Trumped by Malls and Discounters Upending the Discounters Repeating Patterns? Generalist to Specialist Upmarket Momentum

Hypermediation: Commerce as Clickstream

Clicks as Transactions Volume and Efficiency Geeks Rule

## **Learning Objectives**

After reading the article and completing the following exercises, managers should be able to:

- Think about how their product or service might be designed by customers via an interactive, online system.
- Understand how the Internet functions as a disruptive technology in the retailing industry.
- Identify the intermediaries in an online transaction and assess their value to customers.

### **Questions and Ideas to Consider**

(based on "The Age of the Choiceboard" - Slywotzky):

Design a "customer choiceboard" for a product or service that your company offers. Then think about what it's like to be on the *receiving* end of a customer choiceboard. Map all the steps in manufacturing, including procurement, assembly, and delivery, that will need to be taken to satisfy customers. Consider costs as well as turnaround time, from customer order to product delivery. Which elements of your manufacturing process need to change in order to accommodate a choiceboard approach?

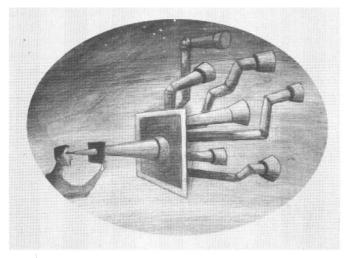
(based on "Patterns of Disruption in Retailing" - Christensen and Tedlow):

Although the authors are reluctant to predict the future, they give "a slight edge" to specialty e-tailers over e-department stores. What do you think? Compare Amazon.com or Wal-Mart.com, for example, with CDNow.com or PlanetRx.com. Which pair of dotcoms is likely to prosper in the digital economy? Why?

(based on "Hypermediation: Commerce as Clickstream" - Carr):

Analyze one transaction similar to the purchase of a Harry Potter book that's depicted in the article, identifying as many intermediaries as possible. If possible, focus on a product or service that your company currently makes available online, or one that your competitors offer online. What particular value does each of these intermediaries deliver to the customer in this transaction?

## 原书空白页



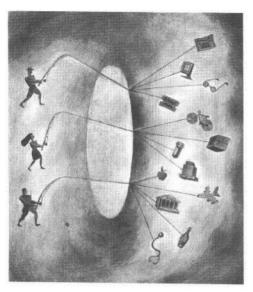
# The Future of Commerce

As WE ENTER THE TWENTY-FIRST CENTURY, the business world is consumed by questions about e-commerce. While the electronic sale of goods still represents only a small fraction of economic activity, the Internet seems at this moment in history to present almost unlimited possibilities – as both a conduit and a disrupter of business. To shed light on the changes we may see as the early years of our new century unfold, we asked some close observers of electronic commerce to share their thoughts and speculations about the future.

Adrian J. Sływotzky, a management consultant and author, has written extensively on the evolution of business models. He believes that electronic commerce will accelerate the shift of power toward the consumer, which will lead to fundamental changes in the way companies relate to their customers and compete with one another. Harvard Business School professors Clayton M. Christensen and Richard S. Tedlow view the Internet as a classic example of a disruptive technology, one that will alter the basis of competition in retailing. They examine past retailing disruptions, and they find patterns that appear to be recurring, at least in part, today. Finally, HBR senior editor Nicholas G. Carr, who has edited a number of the articles on electronic commerce that we've published over the last two years, examines the fragmentation of economic activity taking place on the Web. He foresees a future of "hypermediation," in which profits derive more from clicks than from sales.

It should be no surprise that our authors offer very different visions of what's to come. Out of such intellectual friction comes insight.

The Editors



may be some minor tailoring at the point of purchase – a few optional features or add-ons – but by and large the set of choices is fixed long before customers even begin to shop. Whether they're purchasing cars or clothes or computers, people always get too little of what they want and too much of what they don't.

Of course, the fixed product-line system is no joy for suppliers, either. Predictions of future demand, no matter how well grounded, are inevitably inaccurate. That's why the pages of newspapers and catalogs teem with announcements of sales, factory rebates, and dealer incentives, and why off-price stores are always plentifully stocked. Frustrated

As customers gain control over the design of products, competition within and among industries will take on a whole new shape.

## The Age of the Choiceboard

by Adrian J. Slywotzky

HE LAST TIME I BOUGHT A CAR. I looked at a number of different models on dealers' lots. Not one of them precisely met my needs. Even the car I ultimately purchased represented a compromise, providing some features that I wanted (antilock brakes and a spacious trunk, for instance), some that I was neutral about a sunroof and power mirrors), and a lot of others that I had no need for whatsoever (from cruise control to fog lamps to heated seats). I bought it, even with all the unwanted features, because I liked the way the car looked and handled, and because it was available at that moment. I didn't want to wait a month to get a car with a marginally better mix of features.

What I went through is what all customers go through. Indeed, customer frustration is designed into our business system. Companies create fixed product lines that represent their best guesses about what buyers will want, and buyers make do with what they're offered. There

retailers and manufacturers spend tens of billions of dollars in discounts every year to help dispose of merchandise that isn't moving the way they thought it would.

So why does a system that's bad for both customers and companies hold sway? Historically, there hasn't been an alternative. The slow, imprecise movement of information up the supply pipeline and of goods down it has meant that the manufacturing process must begin long before accurate information about demand exists. Our entire industrial sector operates on guesswork.

#### From Product Taker to Product Maker

Now for the good news. Thanks to the Internet, an alternative to the traditional unhappy model of supplier-customer interaction is finally becoming possible. In all sorts of markets, customers will soon be able to describe exactly what they want, and suppliers will be able to deliver the desired product or service without compromise or delay. The innovation that will catalyze this shift is what I call the *choiceboard*. Choiceboards are interactive, on-line systems that allow individual customers to design their own products by choosing from a menu of attributes, components, prices, and delivery options. The customers' selections send signals to the supplier's manufacturing system that set in motion the wheels of procurement, assembly, and delivery.

The role of the customer in this system shifts from passive recipient to active designer. That shift is just the most recent stage in the longterm evolution of the customer's role in the economy. For most of the twentieth century, customers were "product takers" and "price takers," accepting suppliers' goods at suppliers' prices. Over the past two decades. as customers became more sophisticated and gained greater power over the buying process, they stopped being price takers. Armed with more options and more information, they looked further, bargained harder, and eventually found lower prices. But customers are still product takers. Even though suppliers have tailored their offerings to finer and finer slices of the customer base, buyers are ultimately forced to settle for the best approximation of what they want. With the choiceboard system, however, customers are product takers no longer. They're product makers.

## The Coming Dominance of Choiceboards

Choiceboards are already in use in many industries. Customers today can design their own computers with Dell's on-line configurator, create their own dolls with Mattel's My Design Barbie, assemble their own investment portfolios with Schwab's mutual-fund evaluator, and even design their own golf clubs with Chipshot.com's PerfectFit system. But the choiceboard model is still in its infancy. Despite its enormous benefits, it's involved in less than 1% of the \$30 trillion world economy. Even where it's well established, such as in the PC business, it accounts for only a small fraction of overall industry sales.

Three things are holding choiceboards back. The first is simply their newness: many manufacturers can't even imagine doing business through a choiceboard model. It would mean restructuring their entire manufacturing and sales systems. The second is the lack of highly responsive supply networks that can deliver components and services as needed. The third, and most important, is the lack of a critical mass of customers able to use choiceboards. Digital readiness, which I define as the number of PCs times the degree of PC literacy times the breadth of broadband access, remains low, Some industrial markets have an abundance of digital-ready customers, but in most markets, especially consumer sectors, the digital-ready segment is still a tiny sliver of the customer base.

But that last roadblock will be dismantled quickly. PC sales are strong; digital literacy is spreading rapidly, particularly among the young; and the expansion of broadband access is inevitable. And as soon as the customers are there, you can bet that choiceboards and the supporting infrastructure will be in place. By the end of this decade, I anticipate that choiceboards will be involved in 30% or more of total U.S. commercial activity, as our economy moves from a supply-driven to a demand-driven system. The big question isn't, Will choiceboards dominate commerce? It is, Who will control the choiceboards?

## Changing the Terms of Competition

Because choiceboards collect precise information about the preferences and behavior of individual buyers. they enable companies to secure customer loyalty as never before. With each transaction, a company becomes more knowledgeable about the customer and hence better able to anticipate and fulfill that customer's needs. That knowledge can be used to tailor, in real time, the design of the choiceboard itself, customizing the options presented to the buyer and promoting up-selling and cross-selling. Once aggregated, moreover, the customer information

can be used to guide the evolution of entire product lines and to spot new growth opportunities at their earliest stages. In such an environment, it becomes very difficult for a competitor, lacking the in-depth customer information, to displace the existing provider.

As we are only in the early stages of the choiceboard revolution, first movers stand to gain enormous advantages. As Dell's experience has shown, successful choiceboards act as magnets. They not only exert a strong pull over existing customers but also draw in each new wave of digital-ready buyers. And with each new customer, the company's market knowledge grows stronger, propelling it ever further ahead of the pack. Equally important, choiceboards attract key suppliers, which are also hungry for accurate and timely information about demand. Dell's far-reaching supply contracts with IBM, for example, will help it endure periods of restricted component supplies far better than many of its competitors.

For all those reasons, the rise of choiceboards promises to redistribute power within industries. I foresee three types of competitors vying for early choiceboard control. First is the individual manufacturer or assembler, such as a Dell or a Schwab. Second is a consortium of existing manufacturers; an example is the MetalSite choiceboard launched by a group of leading metals producers. Third, and most threatening to existing players, is the new intermediary. Because choiceboards are essentially design tools and conduits of information, they needn't be controlled by the companies that produce the products. Point.com, for instance, uses a choiceboard to help customers research and buy wireless phones, service plans, and accessories. As it amasses more and more customer information and refines its choiceboard, it will pose an ever greater threat to entrenched telecommunication companies, particularly those that are slow to launch their own choiceboards.

What's abundant in most industries today is production capacity. What's scarce is the ownership of

customer relationships. Because the companies that control choiceboards will also control customer relationships, they will be the ones that hold the power in an industry and reap the lion's share of the profits.

#### The War of the Choiceboards

Once a company controls a choiceboard in an industry, it can use its store of customer information to expand into new industries. This pattern is already playing out with Dell. It first used its choiceboard simply to sell computers. It subsequently expanded into selling computer peripherals and related services such as Internet access. And Michael Dell's investment in CarsDirect.com last year suggests an intent to extend beyond computing. Information-rich customer relationships need not and will not - end at the traditional boundaries between industries.

In the not-too-distant future, therefore, I expect to see a war of the choiceboards. It's impossible to predict exactly how this war will play out, but it seems clear that the victors will be those with the bestdesigned choiceboards, the most responsive supplier networks, and the closest customer relationships. Today, choiceboards are essentially transaction devices; information is a by-product. Tomorrow, choiceboards will be primarily information-collection devices and customer relationship-builders. Companies will use their choiceboards to actively solicit from customers information about their satisfaction levels, their buying intentions, and their requirements and preferences. And, by means of sophisticated analytical techniques like collaborative filtering, they will use the information to predict customers' needs and behavior across virtually all product and service categories. One-stop shopping will take on a whole new meaning, and commerce will take on a whole new look.

Adrian J. Slywotzky is a vice president of Mercer Management Consulting in Lexington, Massachusetts, and coauthor of Profit Patterns (Times Business/Random House, 1999).

The past may not tell us everything about the future of electronic commerce, but it reveals more than we might expect.

## Patterns of Disruption in Retailing

by Clayton M. Christensen and Richard S. Tedlow

dustry is in an acute state of uncertainty. Within every company, at every trade association meeting, in every product category, electronic commerce and its implications dominate the conversation. Fearful of missing an epochal opportunity, investors and executives are rushing to place huge bets on Internet retailing, at what appear to be very high odds. But despite all the talk and frenzied activity, the future of retailing remains decidedly cloudy.

It would be foolish to try to predict which companies' Internet strategies will prove profitable in the end. Yet it seems clear that electronic commerce will, on a broad level, change the basis of competitive advantage in retailing. The industry has, of course, undergone transformations in the past By examining those transformations and identifying patterns in the way they unfolded, we can discover clues about how retailing is likely to evolve in the Internet era.

The essential mission of retailing has always had four elements: getting the right product in the right place at the right price at the right time. The way retailers fulfill that mission has changed as a result of a series of what we call disruptive technologies. A disruptive technology enables innovative companies to create new business models that alter the economics of their industry.

In retailing, the first disruption arrived in the form of department stores. The second was the mailorder catalog. The third was the rise of discount department stores. Internet retailing marks the fourth disruption. A diverse group of Internet companies - retailers such as Amazon.com and Autobytel.com, distributors such as Chemdex, travel agencies such as Travelocity.com, and auction sites such as eBay - are poised to change the way things are bought and sold in their markets. These newcomers pose powerful threats to competitors with more conventional business models.

While disruptions change the economics of an industry, they don't necessarily change companies' profitability. In retailing, profitability is largely determined by two factors: the margins stores can earn and the frequency with which they can turn their inventory over. The average successful department store, for example, earned gross margins of approximately 40% and turned its inventory over about three times per year. In other words, it made 40% three times, for a 120% annual return on the capital invested in inventory. Compare that with the business model of the average suc cessful discount department store, which earned 23% gross margins and turned its inventory over five times annually. It achieved a similar return on inventory investment by changing the balance between margins and turnover rates. Internet retailers' profit margins haven't yet converged into a standard range. But if businesses such as Amazon.com continue to turn inventory at present rates of 25 times annually, they could achieve traditional returns with margins of 5%.

## Department Stores as Disruptive Innovators

Retailing was originally dominated by local merchants who provided value to their customers by keeping large inventories, extending credit, and offering personalized advice. The merchants' high-inventory, service-intensive business model resulted in slow turnover – evidence suggests that many of these retailers struggled to turn their inventories over twice a year – and involved high costs. As a consequence, these retailers were forced to charge high prices to earn the margins necessary to stay in business.

The industry changed dramatically in the late nineteenth and early twentieth centuries as a result of the first retailing disruption: the launch of department stores by men like Marshall Field and R.H. Macy. These stores tended to underperform the existing retailers in many aspects of customer service—a classic characteristic of an industry disruption—but their other qualities gave them advantages. In particular, they did a superior job of getting the right products into the right place. They

brought together an enormous number of different goods in one location, making it much easier for shoppers to find what they needed. In effect, the department stores served as the portals of their day: you knew that if you walked into a good department store, you were likely to find what you wanted. The aggregation of customers and products enabled department stores to outperform local stores in pricing. By accelerating inventory turnover rates, they could earn the same returns on much lower gross margins.

The department stores also found a way to mitigate their disadvantage in customer service. Because their clerks could not be as knowledgeable about individual customers' needs and preferences as local specialty shop owners, department stores initially tended to focus their merchandise mix on simple, familiar products. Then, as customers grew accustomed to the new format, the department stores introduced more complex products at higher price points. The brand of the retailer became a surrogate for product reliability.

The reason that department stores blossomed when they did can be traced to a new technology - the railroad. With an infrastructure of rails in place, department stores could aggregate goods from all over the country, and rail trolleys could transport customers from their homes at the fringes of town to the department stores at the center. Site location became a source of competitive advantage and was managed scientifically. Chains hired squads of "traffic counters" to tabulate the number of potential customers walking past busy street corners. (The busiest corner in America in 1914 was State and Madison in Chicago, which 142,000 people passed between 7:00 AM and midnight.)

At the same time that department stores were springing up in cities throughout the country, another very different disruption was also taking place—catalog retailing. Originally targeted at rural customers who could not easily visit department stores, mail-order catalogs were made possible by the introduc-

tion of rural free mail delivery. Sears touted its catalog as "the cheapest supply house on earth," and it compensated for the lack of personal service with money-back guarantees.

Catalogs were, in essence, an early equivalent of today's virtual department stores. And just as we are now beginning to see virtual retailers branch out into real stores – the so-called clicks-and-mortar strategy – so Sears expanded beyond its catalog to create a chain of physical outlets.

## Trumped by Malls and Discounters

Another technological advance-the automobile - set in motion the next retailing revolution. First, the automobile made shopping malls possible. Although malls proved a real threat to department stores, they didn't alter the fundamental business model. They were a sustaining innovation, not a disruptive one. Malls did the same thing that department stores did, only better. They attracted enough customers to enable a collection of focused retailers such as the Gap, Abercrombie & Fitch, and Williams-Sonoma to achieve similar margins and inventory turns as department stores, but with deeper product lines within sales of the generalist catalogs, like those of Sears' and Ward's. In 1985, Ward closed down its catalog operations. Eight years later, Sears followed suit.

The automobile also made a second wave of innovation possible: the establishment of the discount department stores in the early 1960s. The increased mobility of shoppers enabled discounters like Kmart to set up shop in less expensive real estate at the edge of town, effectively voiding department stores' competitive advantage of prime locations in city centers. Unlike malls, discount stores were a disruptive innovation. They made money through a completely different business model - a low-cost, high-turnover model that enabled successful discounters to achieve five inventory turns a year with gross margins of between 20% and 25%.

Repeating department stores' early strategy, the discounters seized their beachhead by initially concentrating on simple products that could sell themselves. About 80% of the floor area of the leading discount stores during the 1960s and 1970s was devoted to branded hard goods such as hardware, kitchen utensils, books, luggage, and packaged personal care

## MARSHALL FIELD'S, SEARS, AND OTHER BIG DEPARTMENT STORES SERVED AS THE PORTALS OF THEIR DAY.

each category. For the first three decades after shopping malls appeared, department stores continued to play crucial roles as anchors, using their strong brands to draw shoppers. But by making shoppers comfortable with malls, the department stores sowed the seeds of their own obsolescence. Today, many strip and outlet malls are simply aggregations of category-focused retailers, which thrive in the absence of department stores.

A similar transformation took place in catalog retailing. As customers became accustomed to making purchases through the mail, hundreds of specialty catalogs appeared. They chipped away at the

products. Because the key attributes of such merchandise could be communicated easily—by pictures on the package, the brand of the manufacturer, and a few numbers—the discounters were able to spend even less on customer service than the department stores did.

As the discounters invaded the low ground, the department stores systematically closed down their hard-goods departments and moved upmarket. They became retailers of soft goods such as clothing, home furnishings, and cosmetics – products whose key attributes are more complex and harder to communicate. Because soft goods were more

difficult to sell in the low-service, discount format, department stores were able to maintain the higher margins required to sustain their business model.

#### **Upending the Discounters**

During their early years, the discounters were quite successful. As long as they priced their goods 20% below the prices of their common enemy, the department stores, they could make money. But when the discounters had driven the department stores from the lower tiers of the market, they were competing only against equally low-cost discounters. That competition drove pricing and profits in the branded hard-goods tiers of the market to subsistence levels.

And, in a continuation of the earlier pattern, another new set of highly focused retailers attacked the discounters. Specialty discounters such as Circuit City, Staples, Home Depot, Toys R Us, Barnes & Noble, CVS, and Tower Records carved up the hard-goods market. Like the malls, these category killers represent a sustaining innovation rather than a disruptive one. They offer broader, deeper selections of products within their narrower categories, but they still have the volume to achieve the inventory turns required in the discounters' 23% x 5 profit model.

Faced with ever fiercer competition, many of the weaker discount department stores such as Korvettes, Venture, Woolco, Zayre, Grand Central, and Caldor have bowed out of the business. A few discounters, Wal-Mart, most notably, have been able to use their purchasing clout and logistics-management capabilities to continue to compete in hard goods. But most of the surviving discount department stores have followed the earlier path of the department stores: they've fled the hard-goods competition by migrating upmarket. Indeed. discounters such as Bradlees and Target have flipped their original merchandise mix: 60% to 80% of their floor space is now devoted to soft goods. Competing against fullprice department stores is much easier than competing against the cutthroat category specialists.

#### Repeating Patterns?

A fourth retailing disruption, instigated by the Internet, is now under way, and it promises to alter the retailing landscape as fundamentally as the three earlier disruptions.

Of the four dimensions of the retailer's mission-product, place, price, and time - Internet retailers can deliver on the first three remarkably well. The right products? In categories ranging from books to chemicals. Web stores can offer a selection that no bricks-and-mortar outlet can match. The right price? Internet retailers enjoy unparalleled margin flexibility. To earn a 125% return on inventory investment, an Internet retailer such as Amazon.com, which can turn its inventory 25 times each year, needs to earn only 5% gross margins.

And the right place? It is here—location—that the Internet is most revolutionary. The Internet negates the importance of location. Anyone, at any time, can become a global retailer by setting up a Web page.

With such advantages, it's no wonder electronic commerce is attracting so much attention. But how should we expect this revolution to evolve?

As we've seen, there are two clear patterns in the way the earlier retailing disruptions unfolded. First, generalist stores and catalogs dominat-

ed retailing at the outset of the disruptions, but they were eventually supplanted by specialized retailers. The specialists emerged once the market for the new form of retailing had grown large enough to generate enough sales volume for a narrower but deeper product mix. Second, the disruptive retailers weighted their initial merchandise mix toward products that could sell themselvessimple, branded products whose key attributes could be comprehended visually and numerically. They then shifted their merchandise mix toward higher-margin, more complex products to maintain their profits in the face of intense competition at the low end of their businesses.

We appear now to be seeing a repeat of the early stages of both those patterns in Internet retailing. Let's look at each one.

#### Generalist to Specialist

Leading Internet retailers like Amazon.com have rapidly migrated toward the department store strategy. The logic is clear. The Web is a vast and confusing place, and it is currently very difficult to know who is selling what. Anybody with a few thousand dollars can set up a Webbased business, just as almost anybody with a little money in the 1850s could set up a small shop. The best Internet search engines today can locate only a fraction of the Web sites that exist in a category, and they are frustratingly inaccurate. And with such intense advertising noise about us, it is next to impossible to remember which dot-com name is associated with which product or service. Hence, Amazon seems to sense the same opportunity that Richard Sears and Marshall Field saw. If you need to find a product, you don't need to search in the thicket of the Internet. You only need to remember how to type "Amazon.com" - or better yet,



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