Executive know that information technology is not merely a resource to support day-to-day operations. Clever use of IT can significantly change an organization's long-term strategic position in national and global markets. Often, applying information systems to long-term planning completely changes the way a firm conducts its business. Some systems even change the product or service that a firm provides. Today, information systems are an accepted and integral part of strategic planning for nearly all organizations.

When you finish this chapter, you will be able to:

- Explain what business strategy and strategic moves are.
- Illustrate how information systems can give businesses a competitive advantage.
- Identify basic initiatives for gaining a competitive advantage.
- Explain what makes an information system a strategic information system.
- Identify fundamental requirements for developing strategic information systems.
- Explain circumstances and initiatives that make one IT strategy succeed and another fail.
EATS2GO: Using Information Strategically

The information systems that Eats2Go had in place had succeeded so far: the business had been operating for a year, and it was profitable. Juan Moreno, Kendra Banks, and Dave Slater had begun to enjoy running their pushcart lunch business. Handling the food concessions for the city’s major holiday celebrations had helped carry them through the summer, when there weren’t as many students on campus. Now the three entrepreneurs were looking for ways to expand and increase their profits even more. An opportunity presented itself at a Chamber of Commerce meeting.

Looking at Expansion

Dave regularly attended Chamber of Commerce meetings to keep in touch with the local business community. He was always looking for new opportunities. After one meeting, the owner of Campus Town’s outdoor shopping mall approached him with a proposal: the mall owner wanted to draw more foot traffic, and he thought that some small food vendors would provide a fun atmosphere and encourage shoppers to linger. He was thinking of a couple of pushcarts—would Eats2Go be interested? Dave checked with his partners, and they decided to expand their operations to the mall.

However, the increased sales from operating three carts meant that Juan, Kendra, and Dave needed to ramp up their production—and quickly. They were having trouble handling their increased cooking and food preparation load—they were in Juan’s uncle’s kitchen earlier and earlier to finish in time. They seriously needed to consider renting kitchen space for themselves. And they also needed to hire additional staff to help prepare the sandwiches and man the carts—it was simply too much for Juan, Kendra, and Dave to cover three carts by themselves.

A New Line of Business?

Customers began lining up at the outdoor mall lunch carts in droves. To keep their clientele happy, Eats2Go experimented with new chip varieties—handing them out to waiting customers and getting their immediate feedback. Kendra tried plantain chips and baked pita chips in different flavors, in addition to the all-natural potato chips they originally offered. Customers loved the new pita chips, and they could be made from wraps that hadn’t been used the previous day, so their additional cost was minimal. With the great customer reception of the chip line, Juan, Kendra, and Dave were now considering producing and packaging the chips for sale to other retail establishments—in other words, becoming a food manufacturer. They would definitely need to move to new kitchen facilities, but they reasoned that they could use the new kitchen space around the clock eventually, if needed. The additional chip revenue could help them cover the cost of the equipment and new space. They’d also need their own pots and pans, ovens, and packaging equipment. None of this would be cheap, so they’d need to watch expenses and revenues closely in their spreadsheets.

Charting a Strategy with Information Systems

Juan and Dave also investigated the option of using only organic ingredients, to appeal even more to the health-food market. They called organic suppliers and surfed the Web to gather data to plug into their spreadsheets. Doing this research helped them avoid what could have been a costly mistake—going organic would raise their prices 33 percent and would not be a good strategic move for them right now.
New Competition on the Block

After Juan, Kendra, and Dave had made these important decisions, they received some bad news. Word of Eats2Go’s success had evidently spread—a local Subwich franchise had located a shop a few blocks away from Robbins Park to attract some of their business. The three partners were very worried about competing with a national franchise, which had much greater financial resources than they did.

To help retain loyal customers, they decided to implement a frequent buyer program, where current customers could get a free sandwich after the purchase of 10. The three partners registered repeat customers in their database and issued cards to be punched. They hoped this additional program would help them stay competitive with Subwich, but they knew they’d need to remain on their toes.

STRATEGY AND STRATEGIC MOVES

The word “strategy” originates from the Greek word strategos, meaning “general.” In war, a strategy is a plan to gain an advantage over the enemy. Other disciplines, especially business, have borrowed the term. As you know from media coverage, corporate executives often discuss actions in ways that make business competition sound like war. Businesspeople must devise decisive courses of action to win—just as generals do. In business, a strategy is a plan designed to help an organization outperform its competitors. Unlike battle plans, however, business strategy often takes the form of creating new opportunities rather than beating rivals. Although many information systems are built to solve problems, many others are built to seize opportunities. And, as anyone in business can tell you, identifying a problem is easier than creating an opportunity: Why? Because a problem already exists; it is an obstacle to a desired mode of operation and, as such, draws attention to itself. An opportunity, on the other hand, is less tangible. It takes a certain amount of imagination, creativity, and vision to identify an opportunity, or to create one and seize it. Information systems that help seize opportunities are often called strategic information systems (SISs). They can be developed from scratch, or they can evolve from an organization’s existing ISs.

In a free-market economy, it is difficult for a business to do well without some strategic planning. Although strategies vary, they tend to fall into some basic categories, such as developing a new product, identifying an unmet consumer need, changing a service to entice more customers or retain existing clients, or taking any other action that increases the organization’s value through improved performance.

Many strategies do not, and cannot, involve information systems. But increasingly, corporations are able to implement certain strategies—such as maximizing sales and lowering costs—thanks to the innovative use of information systems. In other words, better information gives corporations a competitive advantage in the marketplace. A company achieves strategic advantage by using strategy to maximize its strengths, resulting in a competitive advantage. When a business uses a strategy with the intent to create a market for new products or services, it does not aim to compete with other organizations, because that market does not yet exist. Therefore, a strategic move is not always a competitive move. However, in a free-enterprise society, a market rarely remains the domain of one organization for long, thus, competition ensues almost immediately. So, we often use the terms “competitive advantage” and “strategic advantage” interchangeably.

You might have heard statements about using the Web strategically. Business competition is no longer limited to a particular country or even a region of the world. To increase the sale of goods and services, companies must regard the entire world as their market. Because thousands of corporations and hundreds of millions of consumers have access to the Web, augmenting business via the Web has become strategic: many companies that utilized the Web early on have enjoyed greater market shares, more experience with the Web as a business enabler, and larger
revenues than latecomers. Some companies developed information systems, or features of information systems, that are unique, such as Amazon's “one-click” online purchasing and Priceline's “name your own price” auctioning. Practically any Web-based system that gives a company competitive advantage is a strategic information system.

ACHIEVING A COMPETITIVE disadvantage

Consider competitive advantage in terms of a for-profit company, whose major goal is to maximize profits by lowering costs and increasing revenue. A for-profit company achieves competitive advantage when its profits increase significantly, most commonly through increased market share. Figure 2.1 lists eight basic initiatives that can be used to gain competitive advantage, including offering a product or service that competitors cannot provide or providing the same product or service more attractively to customers. It is important to understand that the eight listed are the most common, but not the only, types of business strategy an organization can pursue. It is also important to understand that strategic moves often consist of a combination of two or more of these initiatives and other steps. The essence of strategy is innovation, so competitive advantage is often gained when an organization tries a strategy that no one has tried before.

Strategy? What Strategy?

A 2004 study by the professional groups Financial Executives International and Computer Sciences Corporation reported that fewer than half of U.S. and Canadian companies had written technology plans, and even fewer believed their plans were in line with the goals of their CEOs. However, planning does seem to pay off. Respondents from companies that had both a plan and good alignment with business goals said their organizations enjoyed a much higher rate of return on every dollar they invested in information technology.


### POINT OF INTEREST

**Strategy? What Strategy?**

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### ACHIEVING A COMPETITIVE ADVANTAGE

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<table>
<thead>
<tr>
<th>Initiative</th>
<th>Benefit</th>
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<tr>
<td>Reduce costs</td>
<td>A company can gain advantage if it can sell more units at a lower price while providing quality and maintaining or increasing its profit margin.</td>
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<tr>
<td>Raise barriers to market entrants</td>
<td>A company can gain advantage if it deters potential entrants into the market, enjoying less competition and more market potential.</td>
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<tr>
<td>Establish high switching costs</td>
<td>A company can gain advantage if it creates high switching costs, making it economically infeasible for customers to buy from competitors.</td>
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<tr>
<td>Create new products or services</td>
<td>A company can gain advantage if it offers a unique product or service.</td>
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<td>Differentiate products or services</td>
<td>A company can gain advantage if it can attract customers by convincing them its product differs from the competition’s.</td>
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<tr>
<td>Enhance products or services</td>
<td>A company can gain advantage if its product or service is better than anyone else's.</td>
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<tr>
<td>Establish alliances</td>
<td>Companies from different industries can help each other gain advantage by offering combined packages of goods or services at special prices.</td>
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<tr>
<td>Lock in suppliers or buyers</td>
<td>A company can gain advantage if it can lock in either suppliers or buyers, making it economically impractical for suppliers or buyers to deal with competitors.</td>
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For example, Dell was the first PC manufacturer to use the Web to take customer orders. Competitors have long imitated the practice, but Dell, first to gain a Web audience, gained more experience than other PC makers on this e-commerce vehicle and still sells more computers via the Web than its competitors. Figure 2.2 indicates that a company can use many strategies together to gain competitive advantage.

**Initiative #1: Reduce Costs**

Customers like to pay as little as possible while still receiving the quality of service or product they need. One way to increase market share is to lower prices, and the best way to lower prices is to **reduce costs**. For instance, if carried out successfully, massive automation of any business process gives an organization competitive advantage. The reason is simple: automation makes an organization more productive, and any cost savings can be transferred to customers through lower prices. We saw this happen in the auto industry. In the 1970s, Japanese automakers brought robots to their production and assembly lines and reduced costs—and subsequently prices—quickly and dramatically. The robots weld, paint, and assemble parts at a far lower cost than manual labor. Until their competitors began to employ robots, the Japanese had a clear competitive advantage because they were able to sell high-quality cars for less than their competitors.

In the service sector, the Web has created an opportunity to automate what until recently was considered an activity that only humans could perform: customer service. An enormous trend toward automating online customer service began with companies such as FedEx, which initially gave customers an opportunity to track their parcels’ status by logging on to a dedicated, private network and database. The same approach is now implemented through the Web. Many sites today include answers to FAQs (frequently asked questions). Others have special programs that can respond to customer questions. Online service gives businesses two major benefits: it changes service from being labor intensive to technology intensive, which is much less expensive; and it provides customers easy access to a service 7 days a week, 24 hours a day. It not only cuts the costs of expensive human labor but also of telephone and mailing charges. Companies that are first to adopt advanced systems that reduce labor enjoy competitive advantage for as long as their competitors lag behind.
Initiative #2: Raise Barriers to Market Entrants

The smaller the number of companies competing within an industry, the better off each company is. Therefore, an organization might gain competitive advantage by making it difficult, or impossible, for other organizations to produce the product or service it provides. Using expertise or technology that is unavailable to competitors or prohibitively expensive is one way to bar new entrants.

Companies raise barriers to entrants in a number of ways. Obtaining legal protection of intellectual property such as an invention or artistic work bars competitors from freely using it. Microsoft and other software powerhouses have gained tremendous strategic advantages by copyrighting and patenting software. On the Web, there are numerous examples of such protection. Priceline.com holds a patent for online reverse (“name your own price”) auctioning, which has prevented competitors from entering its business space. Amazon.com secured a patent for one-click online purchasing, which enables customers to enter shipping and credit-card information once, so all subsequent orders do not have to go through a verification Web page. Although the software is quite simple, Amazon obtained a patent for it in 1999 that won’t expire until 2017. Amazon successfully sued Barnes & Noble (B&N) when it implemented the same technology on BN.com. Now B&N pays Amazon for its use. More recently, Amazon obtained a patent for its techniques used to decide what types of items a user might like to buy in the future. Exclusive use of the methods might give the company additional strategic advantage in online shopping. Protecting any invention, including hardware and software, with patents and copyrights provides an excellent barrier to potential entrants.

Another barrier to potential new market entrants is the high expense of entering that market. The pension fund management industry is a prime illustration. State Street Corporation is one of its most successful examples. In the 1980s, State Street committed massive amounts of money to developing ISs that helped make the company a leader in managing pension funds and international bank accounts. The huge capital allocation required to build a system to compete successfully with State Street keeps potential entrants out of the market. Instead, other pension management corporations rent State Street’s technology and expertise. In fact, State Street derives about 70 percent of its revenues from selling its IS services. This company is an interesting example of an entire business refocusing around its ISs.

Initiative #3: Establish High Switching Costs

Switching costs are expenses incurred when a customer stops buying a product or service from one business and starts buying it from another. Switching costs can be explicit (such as charges the seller levies on a customer for switching) or implicit (such as the indirect costs in time and money spent adjusting to a new product that does the same job as the old).

Often, explicit switching costs are fixed, nonrecurring costs, such as a penalty a buyer must pay for terminating a deal early. In the cellular telephone service industry, you can usually get an attractive deal, but if you cancel the service before a full year or more has passed, you have to pay a hefty penalty. So although another company’s service might be more attractive, you might decide to wait the full contract period because the penalty outweighs the benefits of the new company’s service. When you do decide to switch, you might discover that the telephone is not suitable for service with any other telephone company. The cost of the telephone itself, then, is another disincentive to switch.

A perfect example of indirect switching expenses is the time and money required to learn new software. Once a company trains its personnel to use one word-processing or spreadsheet program, a competing software company must offer a very enticing deal to make switching worthwhile. The same principle holds for many other applications, such as database management systems and Web page editors and graphical software. Consider Microsoft’s popular MS Office suite; you can purchase the significantly less expensive Sun Microsystems’ StarOffice, a software suite that is equivalent to MS Office. Better yet, you can download free of charge the entire suite of OpenOffice.org. Yet, few organizations or consumers who are accustomed to MS Office are willing to switch to StarOffice or OpenOffice.org.
Manufacturers of laser and ink-jet printers sell their printers at cost or below cost. However, once you purchase a printer, you must replace a depleted ink or toner cartridge with one that the printer manufacturer sells, or take a risk with nonoriginal cartridges. As a cartridge customer, you face high costs if you consider switching to another brand. Even if comparable cartridges from another manufacturer are less expensive, you cannot use them; and if you decide to use those cartridges, you will lose your investment in the printer, because you must buy a new one. Thus, establishing high switching costs often locks in customers. Locking in customers by any means is a way to accomplish a strategic advantage, and is discussed later.

**Initiative #4: Create New Products or Services**

Clearly, creating a new and unique product or service that many organizations and individuals need gives an organization a great competitive advantage. Unfortunately, the advantage lasts only until other organizations in the industry start offering an identical or similar product or service for a comparable or lower price.

Examples of this scenario abound in the software industry. For instance, Lotus Development Corporation became the major player early on in the electronic spreadsheet market after it introduced its Lotus 1-2-3 program. When two competitors tried to market similar products, Lotus sued for copyright infringement and won the court case, sustaining its market dominance for several years. However, with time, Microsoft established its Excel spreadsheet application as the world leader, not only by aggressive marketing but also by including better features in its application.

Another example of a company creating a new service is eBay, the firm that dominates online auctions. The organization was the first to offer this service, which became very popular within only a few months. While other firms now offer a similar service (e.g., Amazon.com and Yahoo! Auctions), the fact that eBay was the first to offer it gave eBay a huge advantage: it quickly acquired a large number of sellers and bidders, a network that is so critical to creating a "mass" of clients, which in turn is the main draw for additional clients. It also gave eBay a great advantage in experience and allowed it to open a gap that was difficult for competitors to close, even for giants such as Amazon.com. eBay is an example of an entire business that would be impossible without the Web and the information technologies that support the firm's service.

eBay's success demonstrates the strategic advantage of the first mover, an organization that is the first to offer a new product or service. By the time other organizations start offering the same product or service, the first mover has usually created some assets that cannot be had by the competitors: a superior brand name, a better technology or method for delivery, or a critical mass. A critical mass is a body of clients that is large enough to attract many other clients. In many cases, first movers simply enjoy longer experience, which in itself is an advantage over competitors.

XM and Sirius, satellite-based radio services, have changed radio broadcasting. Their broadcasts release radio services from the constraints of territorial boundaries and so far have avoided national content regulation. This is an example of a new service that is fast garnering an increasing client base. Some observers predict that in a decade or so, the number of listeners to this type of broadcast will surpass the number of listeners to traditional radio stations. Many radio personalities and radio stations now offer programs on satellite radio, hoping to participate in its strategic advantage. The two pioneers in this market, XM and Sirius, are reaping the rewards of first movers.

Being a first mover is not always a guarantee of long-term success, however. One example of how a first-mover strategic advantage can be lost within just a few months is in the Web browser arena. Netscape Corporation (now part of AOL) dominated the Web browser market, which was new in 1994. By allowing individual users to download its browser for free, it cornered up to 95 percent of the market. The wide use of the browser by individuals moved commercial organizations to purchase the product and other software compatible with the browser. Netscape's dominance quickly diminished when Microsoft aggressively marketed its own browser, which many perceived as at least as good as Netscape's. Microsoft provided Internet Explorer free of charge to anyone and then bundled it into the Microsoft Windows operating system software.
distributed with almost all PCs. Even after the court-ordered unbundling, its browser still dominated. This dominance in turn has been threatened by free browsers such as Mozilla’s Firefox and Avant Force’s Avant Browser, which offer similar or better features, more flexibility, and fewer security vulnerabilities.

Other first movers have lost market share because they neglected to improve the service they pioneered. Few Web surfers remember Infoseek, the first commercial search engine. Google, which entered the search engine arena in 1998, improved the quality and speed of Web searches, offering a clutter-free home page. The strategy of its two young entrepreneurs was simple: provide the best search engine, and refrain from commercializing it for a while. Over a period of about three years Google established itself as the best search engine. In time, it started to capitalize on this prominence by selling sponsored links (the right side of the results of a user’s search). Most importantly, the organization never stopped improving its search algorithms and periodically has offered new services. The strategy has succeeded so much that “google it” has become synonymous with “search for it on the Web.”

**Initiative #5: Differentiate Products or Services**

A company can achieve a competitive advantage by persuading consumers that its product or service is better than its competitors’, even if it is not. Called product differentiation, this advantage is usually achieved through advertising. Brand-name success is a perfect example of product differentiation. Think of Levi’s Jeans, Chanel and Lucky perfumes, and Gap clothes. The customer buys the brand-name product, perceiving it to be superior to similar products. In fact, some products are the same, but units sold under a prestigious brand name sell for higher prices. You often see this phenomenon in the food, clothing, drug, and cosmetics markets.

Product and service differentiation impacts not only consumers but also businesses. For example, IBM’s Global Services division has created a great brand name for itself as an IT consulting firm. Interestingly, while IBM lost the corporate world’s perception that only IBM computers are reliable enough to support business operations (“Nobody ever got fired for buying IBM”), it has gradually differentiated itself as a reliable and knowledgeable consulting organization.
Initiative #6: Enhance Products or Services

Instead of differentiating a product or service, an organization might actually add to the product or service to increase its value to the consumer; this is called enhancing existing products or services. For example, car manufacturers might entice customers by offering a longer warranty period for their cars, and real-estate agents might attract more business by providing useful financing information to potential buyers.

Since the Internet opened its portals to commercial enterprises in the early 1990s, an increasing number of companies have supplemented their products and services. Their Web sites provide up-to-date information that helps customers utilize their purchased products better or receive additional services. Companies that pioneered such Internet use reaped great rewards. For example, Charles Schwab gained a competitive advantage over other, older brokerage companies such as Merrill Lynch by opening a site for online stock transactions. Nearly half its revenue now comes from this site. All brokerage houses followed and allow customers to trade through a Web site.

Google did not offer an original service, but its service has grown superior to other Web search services.

Still Room for Improvement

Using Web technologies as a strategic weapon reaps dividends. Keynote Systems, Inc., a consulting firm, conducted a survey of 2,000 customers responding to questions about the Web sites of 16 leading travel and airline companies. Online travel agencies Expedia, Orbitz, and Travelocity were ranked more highly than any airline site except Southwest Airlines. One of the most important criteria for any transactional Web site is conversion, turning a Web shopper into a paying customer. Customers tend to shop more at sites where they enjoy the experience. Southwest and JetBlue outranked much larger airlines both in terms of conversion and customer experience.

Although devising strategic moves is mainly the responsibility of senior management, let us remember Napoleon's words: "Every soldier carries a marshal's baton in his knapsack." To paraphrase: every junior manager is a potential senior manager. Thus, it is incumbent on every professional to try to think strategically for his or her organization. In fact, employees at the lowest levels have proposed some of the most brilliant strategic ideas. In today's highly competitive market, strategy might determine an organization's rise or fall.

An increasing number of strategic moves are either possible only with the aid of ISs or have ISs at the center of their strategy—that is, technology provides the product, service, or method that gains the organization strategic advantage. The potential for new business models on the Web is still great. Thus, professionals must understand how to use technology in strategic moves. Understanding how strategic information systems are conceived and implemented might help you suggest good ideas for such systems in your organization and facilitate your promotion up the organizational ladder.

Other companies use the Internet to maintain their competitive edge by continually adding to and enhancing their online services. Dell is not the only company that sells computers online, for example. Other, smaller companies provide a similar service and sell comparable products, with more flexibility in “building your own computer online,” often at lower prices. However, Dell maintains the popularity of its site through continuous enhancement of the services it offers. For example, it offers a buying guide center that clearly explains what to look for in various types of products and explains topics of interest such as software security.

**Initiative #7: Establish Alliances**

Companies can gain competitive advantage by combining services to make them more attractive (and usually less expensive) than purchasing services separately. These alliances provide two
draws for customers: combined service is cheaper, and one-stop shopping is more convenient. The travel industry is very aggressive in this area. For example, airlines collaborate with hotel chains and car-rental firms to offer travel and lodging packages and with credit-card companies that offer discount ticket purchases from particular airlines or the products of particular manufacturers. Credit-card companies commonly offer frequent flier miles for every dollar spent. In all these cases, alliances create competitive advantages.

As Figure 2.3 indicates, by creating an alliance, organizations enjoy synergy: the combined profit for the allies from the sale of a package of goods or services exceeds the profits earned when each acts individually. Sometimes, the alliances are formed by more than two organizations. Consider the benefits you receive when you agree to accept a major credit card: discounts from several hotel chains, restaurant chains, flower delivery chains, and other stores, as well as free insurance when renting a car, and frequent flier miles, to name a few. Similarly, travel Web sites such as Orbitz offer you the opportunity to reserve lodging and car rental at discounts while you make your airline reservations. The company has also established alliances with hotel chains and car rental companies.

What is the common denominator among these companies? They each have an information system that tracks all these transactions and discounts. A package of attractive propositions entices clients who need these services (and most businesses do). Would this offer be feasible without an IS to track transactions and discounts? Probably not.

Growing Web use for e-commerce has pushed organizations to create alliances that would be unimaginable a few years ago. Consider the alliance between Hewlett-Packard and FedEx. HP is a leading manufacturer of computers and computer equipment. FedEx is a shipping company. HP maintains inventory of its products at FedEx facilities. When customers order items from HP via its Web site, HP routes the order, via the Web, to FedEx. FedEx packages the items and ships them to customers. This arrangement lets HP ship ordered items within hours rather than days. The alliance gives HP an advantage that other computer equipment makers do not share. Again, it is a clever IS that enables this strategy.

On the Web, an obvious example of alliances is an affiliate program. Anyone can place links to commercial sites on his or her personal Web site. When a visitor clicks through to a commercial site and makes a purchase, the first site’s owner is paid a fee. Some online retailers have thousands of affiliates. The early adopters of such programs, Amazon.com, Buy.com, Priceline.com, and other large e-retailers, enjoyed a competitive advantage in gaining new customers. It is easy for any Web site holder to become an affiliate of Amazon.com.
Another example is the collaboration between Amazon.com and other retailers who leverage Amazon’s technology. Target Corp. is one of America’s largest retailers. To extend its operation to the Web, it formed a strategic alliance with the giant online retailer. If you go to Target’s site, you will notice the words “Powered by Amazon.com.” Amazon provides Target with its proprietary search engine, order-fulfillment and customer-service systems, and the patented one-click shopping application, which lets customers pay for merchandise selected from the Target, Marshall Field’s, and Mervyn’s sites from one electronic shopping cart (Marshall Field’s and Mervyn’s are Target subsidiaries). In return, Amazon collects a percentage of all sales from Target’s retail sites, as well as annual fixed fees. Have we mentioned referrals? Next to the logos of Target and its subsidiaries, you also find Amazon’s logo, which serves as a link to Amazon’s site (where you also see the Target logo prominently displayed).

The Web has generated strategic alliances that would probably never be created offline. Can you imagine Wal-Mart inviting Sears to sell Sears’ merchandise from Wal-Mart stores? This is exactly what Amazon does. Its site has links to sales of other companies, and not just companies such as Target, with which it has a special relationship. When you search for an item on Amazon, you might find links not only to its own products but also to those of competitors, such as Circuit City, the consumer electronics chain. If this sounds strange, consider the rationale: Amazon wants customers to compare its price and its competitors’ price for the same item and see that Amazon’s is lower, mainly because Amazon manages its warehouses more efficiently than any other retailer in the world. Even if customers decide to purchase from the competitor through the Amazon site, Amazon receives a commission from the seller.

**Initiative #8: Lock in Suppliers or Buyers**

Organizations can achieve competitive advantage if they are powerful enough to lock in either suppliers to their mode of operation or buyers to their product. Possessing bargaining power—the leverage to influence buyers and suppliers—is the key to this approach. As such, companies so large that suppliers and buyers must listen to their demands use this tactic nearly exclusively.

A firm gains bargaining power with a supplier either when the firm has few competitors or when the firm is a major competitor in its industry. In the former case, the fewer the companies that make up a supplier’s customer base, the more important each company is to the supplier; in the latter case, the more important a specific company is to a supplier’s success, the greater bargaining power that company has over that supplier.

The most common leverage in bargaining is purchase volume. Companies that spend billions of dollars purchasing parts and services have the power to force their suppliers to conform to their methods of operation, and even to shift some costs onto suppliers as part of the business arrangement. Consider Wal-Mart, the world’s largest retailer. Not only does the company use its great bargaining power to pressure suppliers to lower prices, but it also requires them to use information systems that are compatible with its own automated processes. The suppliers must use its that tell them when to ship products to Wal-Mart so that the giant retailer is never left understocked or overstocked. In recent years this power allowed the company to require its suppliers to use radio frequency identification (RFID) devices in packaging, to allow more accurate tracking of ordered, shelved, and sold items. This great bargaining power and tight control of inventory enables Wal-Mart to enjoy great cost savings, which it passes on to customers, which keep growing in numbers thanks to the competitive prices. Many suppliers are
locked in with Wal-Mart because of the sheer volume of business they have with the company: some sell a third to one-half of everything they produce to this single retailer, and some, such as the giant consumer products maker Procter & Gamble, have a “Vice President, Wal-Mart” as a member of the senior management.

One way to lock in buyers in a free market is to create the impression that an organization’s product is significantly better than the competitors’, or to enjoy a situation in which customers fear high switching costs. In the software arena, enterprise applications are a good example. This type of software helps organizations manage a wide array of operations: purchasing, manufacturing, human resources, finance, and so forth. The software is expensive, costing millions of dollars. After a company purchases the software from a firm, it is locked in to that firm’s services: training, implementation, updates, and so forth. Thus, companies that sell enterprise software, such as SAP, Oracle, and Inversys, make great efforts to improve both their software and support services to maintain leadership in this market.

Another way to lock in clients is to create a standard. The software industry has pursued this strategy vigorously, especially in the Internet arena. For example, Microsoft’s decision to give away its Web browser by letting both individuals and organizations download it free from its site was not altruistic. Microsoft executives knew that the greater the number of Internet Explorer (IE) users, the greater the user base. The greater the user base, the more likely organizations were to purchase Microsoft’s proprietary software to help manage their Web sites. Also, once individual users committed to IE as their main browser, they were likely to purchase Microsoft software that enhanced the browser’s capabilities.

Similarly, Adobe gives away its Acrobat Reader software, an application that lets Web surfers open and manipulate documents created using different computers running different operating systems, such as various versions of Windows, the Mac operating system, and UNIX. When the Reader user base became large enough, organizations and individuals found it economically justifiable to purchase and use the full Acrobat application (the application used to create the documents) and related applications. Using this strategy put Adobe’s PDF (portable data format) standard in an unrivaled position.

Another company, Macromedia Inc., developed software called Flash to create Web page animations. It offers the Flash player for download free of charge but sells the development tool. Like Adobe, Macromedia has created a symbiotic situation to augment its market: the more individuals download the player, the more businesses are willing to purchase the development tool. The more companies engage Flash modules in their Web pages, the more individuals download the player, without which they cannot enjoy those animations.

Creating and Maintaining Strategic Information Systems

There might be many opportunities to accomplish a competitive edge with IT, especially in industries that are using older software, such as the insurance industry. Insurance companies were among the early adopters of IT and have not changed much of their software. This is why some observers say the entire industry is inefficient. Once an insurance company adopts innovative software applications, it might gain competitive advantage. This might remind you of the airline industry. Most airlines still use antiquated hardware and software. As you’ll learn later in the chapter, when JetBlue was established, it adopted the latest technologies, and this was a major reason for its great competitive advantage.

Companies can implement some of the strategic initiatives described in the previous section by using information systems. As we mentioned at the beginning of the chapter, a strategic information system (SIS) is any information system that can help an organization achieve a long-term competitive advantage. An SIS can be created from scratch, developed by modifying an existing system, or “discovered” by realizing that a system already in place can be used to strategic advantage. While companies continue to explore new ways of devising SISs, some successful SISs are the result of less lofty endeavors: the intention to improve mundane operations using IT has occasionally yielded a system with strategic qualities.

Strategic information systems combine two types of ideas: ideas for making potentially winning business decisions and ideas for harnessing information technology to implement the decisions. For an information system to be an SIS, two conditions must exist. First, the
information system must serve an organizational goal rather than simply provide information; and second, the organization’s IS unit must work with managers of other functional units (including marketing, finance, purchasing, human resources, and so on) to pursue the organizational goal.

Creating an SIS

To develop an SIS, top management must be involved from initial consideration through development and implementation. In other words, the SIS must be part of the overall organizational strategic plan. There is always the danger that a new SIS might be considered the IS unit’s exclusive property. However, to succeed, the project must be a corporate effort, involving all managers who use the system.

Figure 2.4 presents questions that management should ask to determine whether to develop a new SIS. Executives meet to try to identify areas in which information can support a strategic goal. Only after completing the activities outlined in Figure 2.4 will management be able to conceptualize an SIS that seizes an opportunity.

A word of caution regarding Question 4 in Figure 2.4, the issue of economic justification of an SIS: an increasing number of researchers and practitioners conclude that estimating the financial benefits of information systems is extremely difficult. This difficulty is especially true of SISs. The purpose of these systems is not simply to reduce costs or increase output per employee; many create a whole new service or product. Some completely change the way an organization does business. Because so many fundamental business changes are involved, measuring the financial impact is difficult, if not impossible, even after implementation, let alone before. For example, if a bank is considering offering a full range of financial services via the Web, how can management know whether the move justifies the great cost of the special software? It is extremely difficult to estimate the success of such a bold approach in terms of how many new customers the bank would gain.

Reengineering and Organizational Change

Sometimes, to implement an SIS and achieve competitive advantage, organizations must rethink the entire way they operate. While brainstorming about strategic plans, management should ask: “If we established this business unit again, from scratch, what processes would we implement and how?” The answer often leads to the decision to eliminate one set of operations and build others from the ground up. Changes such as these are called reengineering. Reengineering often involves adoption of new machinery and elimination of management layers. Frequently, information technology plays an important role in this process.
Reengineering’s goal is not to gain small incremental cost savings, but to achieve great efficiency leaps—of 100 percent and even 1000 percent. With that degree of improvement, a company often gains competitive advantage. Interestingly, a company that undertakes reengineering along with implementing a new SIS cannot always tell whether the SIS was successful. The reengineering process makes it impossible to determine how much each change contributed to the organization’s improved position.

Implementation of an SIS requires a business to revamp processes—to undergo organizational change—to gain an advantage. For example, when General Motors Corp. (GM) decided to manufacture a new car that would compete with Japanese cars, it chose a different production process from that of its other cars. Management first identified goals that could make the new car successful in terms of how to build it and also how to deliver and service it. Realizing that none of its existing divisions could meet these goals because of their organizational structures, their cultures, and their inadequate ISs, management established Saturn as an independent company with a completely separate operation.

Part of GM’s initiative was to recognize the importance of Saturn dealerships in gaining competitive advantage. Through satellite communications, the new company gave dealers access to factory information. Clients could find out if, and exactly when, different cars with different features would be available.

Another feature of Saturn’s SIS was improved customer service. Saturn embeds an electronic computer chip in the chassis of each car. The chip maintains a record of the car’s technical details and the owner’s name. When the car is serviced after the sale, new information is added to the chip. At their first service visit, many Saturn owners were surprised to be greeted by name as they rolled down their windows. While the quality of the car itself has been important to Saturn’s success, the new SIS also played an important role. This technology was later copied by other automakers.

Competitive Advantage as a Moving Target

As you might have guessed, competitive advantage is not often long lasting. In time, competitors imitate the leader, and the advantage diminishes. So, the quest for innovative strategies must be dynamic. Corporations must continuously contemplate new ways to use information technology to their advantage. In a way, companies’ jockeying for the latest competitive advantage is a lot like an arms race. Side A develops an advanced weapon, then side B develops a similar weapon that terminates the advantage of side A, and so on.

In an environment where most information technology is available to all, SISs originally developed to create a strategic advantage quickly become an expected standard business practice. A prime example is the banking industry, where surveys indicate that increased IS expenditures did not yield long-range strategic advantages. The few banks that provided services such as ATMs and online banking once had a powerful strategic advantage, but now almost every bank provides these services.

A system can only help a company sustain competitive advantage if the company continuously modifies and enhances it, creating a moving target for competitors. American Airlines’ Sabre—the online reservation system for travel agents—is a classic example. The innovative IS was redesigned in the late 1970s to expedite airline reservations and sell travel agencies a new service. But over the years, the company spun off an office automation package for travel agencies called Agency Data Systems. The reservation system now encompasses hotel reservations, car rentals, train schedules, theater tickets, and limousine rentals. It later added a feature that let travelers use Sabre from their own computers. The system has been so successful that in its early years American earned more from it than from its airline operations. The organizational unit that developed and operated the software became a separate IT powerhouse at AMR Corp., the parent company of American Airlines, and now operates as Sabre Inc., an AMR subsidiary. It is the leading provider of technology for the travel industry. Travelocity, Inc., the popular Web-based travel site, is a subsidiary of Sabre, and, naturally, uses Sabre’s software. Chances are you are using Sabre technology when you make airline reservations through other Web sites, as well.

We return again to Amazon as an example of how ISs help companies maintain competitive advantage. Management believes that it must add new features to its Web site to attract buyers over and over again. The company continuously improves its Web pages’ look and the online
services it provides. Amazon has moved from merely selling books through the Web to providing best-seller lists, readers' reviews, authors' interviews, selling almost any consumer product imaginable, and posting consumer wish lists, product reviews by customers, and other "cool stuff." The constant improvements help the company maintain its dominant position in online retailing.

JETBLUE: A SUCCESS STORY

We usually expect entrepreneurs to enter a new and profitable industry, not an old, money-losing one. However, with the proper technology and management methods, it seems that some energetic people can gain strategic advantage where others have been hurting. The U.S. airline industry has seen mainly bad times since the industry's deregulation in the 1970s. Things got worse in the beginning of the third millennium, and even worse after the terrible events of September 11, 2001. In 2001, the industry lost $7.7 billion, but JetBlue had a profit of $3.85 million on revenue of $320.4 million. It continued to be profitable in 2002, 2003, and 2004 along with only one other airline, Southwest Airlines, while all other U.S. carriers had losses. Its revenues grew from $998.4 in 2003 to $1.27 billion in 2004.

JetBlue was established in February 2000 by David Neeleman, who serves as its CEO. Two decades earlier, in 1984, Neeleman cofounded Morris Air, a small airline in Salt Lake City, Utah, which was the first airline to offer ticketless travel, a program that was developed inside the company. With a college student he developed Open Skies, a computer program that integrates electronic ticketing, Internet reservations, and revenue management. Revenue management tools help an airline plan the most profitable routes and ticket pricing. Morris Air was sold to Southwest Airlines, which enthusiastically adopted the e-ticket idea. Neeleman became an executive at Southwest but left in frustration, because he believed that an airline could achieve much more efficiency with information technology. Now headquartered in Forest Hills, New York, JetBlue has gained a great strategic advantage over larger and older airlines. The company's success is the result of understanding customers' priorities and gaining great efficiencies through automating whatever IT can automate. Management also learned to break away from practices that inhibit efficiency and agility.

In a highly competitive industry that traditionally has had a narrow profit margin, JetBlue managed to gain strategic advantage by reducing cost and therefore reducing the price to the customer, and improving a service, especially in terms of on-time departures and arrivals.

Massive Automation

We usually think of manufacturing organizations when mentioning automation, but great benefits can also be gained by automating services. JetBlue uses Open Skies, the software that Neeleman developed. It is a combination reservation system and accounting system, and supports customer service and sales tracking. The company avoids travel agents. Booking a flight through a travel agent costs airlines $20 per ticket. JetBlue saves office space rent and electricity by using reservation agents who work from home (telecommuting is discussed in Chapter 6) and use VoIP (Voice over Internet Protocol, also discussed in Chapter 6) for telephoning. The company pays a flat fee of $25 per telephone line per month for these telecommuting agents. This reduces its handling cost per ticket to $4.50.

Because all tickets are electronic, there is no paper handling or expense. JetBlue encourages customers to purchase their tickets online, and more than 79 percent of them do so, saving the company much labor. The cost of handling a ticket ordered via the Web is reduced to only 50 cents, as opposed to $4.50 paid to a reservation agent, and a far cry from the $20 a booking through a travel agent.

JetBlue automates other aspects of running an airline as well. Its maintenance workers use a maintenance information system from Dash Group to log all airplane parts and their time cycles, that is, when the parts must be replaced and where they can be found. The system reduces manual tracking costs.

Flight planning to maximize yield—the number of seats occupied on a flight—is executed on a flight-planning application from Bornemann Associates. It reduces planning costs and makes operations more efficient. JetBlue also uses an application that its team of 58 IT professionals
developed in-house, called Blue Performance. It tracks operational data that is updated flight by flight. The company's intranet enables its 2,800 employees to access the performance data. Managers have up-to-the-minute metrics, so critical in airline operations, which enable them to respond immediately to problems.

When on the ground, employees use wireless devices to report and respond to any irregular event, from weather delays to passenger injuries. The response is quick, and the events are recorded in a database for later analysis.

When training pilots and other employees, no paper records are kept. An aviation training management system provides a database to track each employee's training record. It is easy to update and efficient for record retrieval.

Away from Tradition
The company decided not to use the hub-and-spokes method of routing its airplanes, a method used by all major airlines. Instead of having its airplanes land in one or two hubs and undergo maintenance there before taking off for the next leg of a route, it simply uses the most profitable routes between any two cities. All flights are point to point—no hubs, no spokes. JetBlue was the first airline to establish paperless cockpits. The Federal Aviation Authority (FAA) mandates that pilots and other air crew members have access to flight manuals. The manuals are the documents showing information about each flight, including route, weight, and how the weight is spread on board, fuel quantity, and even details such as how many pets are on board. Other airlines update their manuals and then print them after every update. All JetBlue flight manuals are centrally maintained, and the pilots and first officers access and update the manuals on laptop computers that they carry into the cockpit. As soon as the data have been entered, employees have access to the information.

The laptops enable the pilots and first officers to calculate the weight and balance of their plane with a few keystrokes instead of relying on dispatchers at headquarters to do the calculations for them. JetBlue saves paper and time by having employees enter flight data. The company subscribes to SharePoint, a Web-based portal that enables electronic updates to flight manuals. This cuts 15 to 20 minutes from preflight preparations for every flight. The result is a savings of about 4,800 hours per year and planes that take off and land on time.

JetBlue continues to harness IT to maintain the strategic gap between it and its competitors. Management planned a paperless frequent flier program, cockpit-monitoring cameras transmitting through satellites so that ground crews can monitor activity, and biometric applications in airport terminals. Biometrics use physical characteristics of people, such as fingerprints and retina scans, for authentication and access to physical places and online information systems. Biometrics are more secure than access codes. The IT team is also developing a new reservation system that will have features no other airline reservation system has.

Enhanced Service
Much of the technology that helps JetBlue employees provide better service is invisible to the customers, but it also has some more obvious winning features. JetBlue offers leather seats and individual real-time television on all its airplanes. Other airlines do not offer such seats on economy class, and offer only recorded television programs. The real-time TV service is offered under a contract with DirecTV.

Its use of IT technologies also placed the airline at the top of the list for on-schedule departures and arrivals, a service that is very important, especially to business travelers. Perhaps even better, JetBlue ranks at the top as having the fewest mishandled bags. Thanks to constant updates to the Open Skies system, the company has managed to maintain check-in time at less than one minute. When passengers arrive at JetBlue's terminal at JFK airport, they are directed by a large LCD display with a computer-generated voice telling them which window is available to serve them. Usually, checking baggage takes 45 seconds. When passengers arrive at their destination, they do not have to wait for their suitcases. Their electronically tagged suitcases wait for them at the baggage claim area.
Because of heightened security awareness, management decided to install hidden video cameras in the cabin and monitors in the cockpit. Technicians used the DirecTV wires to add the cameras and monitors. Customers are more comfortable knowing of this extra step to enhance their safety.

**Impressive Performance**

The most important metric in the airline industry is cost per available seat-mile (CASM), which is how much it costs to fly a passenger one mile of the journey. JetBlue has been able to maintain the lowest or next to lowest CASM in its first three years of operations. While its competitors’ CASM is 11 cents or higher, JetBlue’s CASM is less than 7 cents. While its competitors fill only 71 percent of seats, JetBlue fills 78 percent.

**Late Mover Advantage**

Some observers cite the fact that JetBlue is a late competitor as an important factor in its success. The company is not burdened with antiquated information systems, or as IT professionals like to call them, legacy systems. This allowed its CIO, Jeff Cohen, to implement the latest available technologies: fast databases, VoIP, a slick Web site, laptop computers with the latest algorithms for fast calculation of routes and loads in the cockpit, and other technologies. This situation illustrates the strategic advantage of the late mover.

JetBlue executives quip that while other airlines run on fuel, theirs runs on information technology. Cohen said that up to 40 percent of the software the company was using was beta or new software. Beta software is software that the developer gives to potential adopters for trial use. Talk about being on the cutting—and possibly bleeding—edge! Yet, competitors have taken notice. Delta Airlines established a subsidiary called Delta Song. The organization mimics many of JetBlue’s innovations, including live TV. Similarly, United Airlines created a nimble subsidiary airline called Ted to compete with JetBlue.

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For JetBlue, information technology is at least as important as fuel.
FORD ON THE WEB: A FAILURE STORY

Sometimes what seems to be a great, forward-looking strategic move ends up as a colossal failure. It might be because of lack of attention to details or simply because the innovator could not predict the response of customers or business partners. Such was the great initiative of Jacques Nasser, the former CEO of Ford Motor Company, the second largest U.S. automaker.

The Ideas

When Nasser was appointed CEO of Ford in 1999, he regarded himself as an agent of change. He was eager to push the company into the Web, which was then at the height of its hype as a commercial vehicle. "We are now measuring speed in gigahertz, not horsepower," he said at the 2000 North American International Auto Show in Detroit. The concept cars sported, among other innovations, mobile Internet access. Ford Motor Co., he said, would put the Internet on wheels.

Ford launched Wingcast telematics, devices that would be installed in the company's vehicles and enable drivers and passengers to access the Web. To this end the company formed an alliance with Qualcomm Inc., a telecommunications company, and Yahoo!

Ford created a joint venture with General Motors Corp. and DaimlerChrysler to establish Covisint, a Web site that serves as an electronic market for parts suppliers who can bid online on requests for proposals posted by the automakers. Although not announced this way, the automakers' hope was that suppliers would fiercely compete in an open bidding process and cut their prices dramatically, so the auto companies could enjoy cost cuts. This was the business-to-business (B2B) part of Nasser's grand plan.

The business-to-consumer (B2C) idea was bolder: Ford wanted to push vehicle sales to the Web. Nasser wanted to bypass dealerships and retail the vehicles online directly to consumers. Consumers would go to the Web site, take a virtual test-drive, see images of a vehicle in all its available colors, order a vehicle, pay for it online, and then have it driven to their door. Ford would not only provide a great service but also save the dealer fees. The company called the site FordDirect.com. A special organizational unit, ConsumerConnect, was established to build the Web site and handle the direct sales.

Hitting the Wall

Apparently, buyers were not as enthusiastic about having Web access in their vehicles as Nasser predicted. In June 2001, Ford eliminated the Wingcast project. The B2B effort, Covisint, works, and now includes more automakers, such as the French company Renault and the Japanese company Nissan. The B2C initiative failed.

The failure was not the result of faulty technology. There are excellent Web technologies that would support retail through the Web. There is no reason why a car cannot be selected, paid for, and delivered (with the help of companies that specialize with such delivery from the manufacturer to the buyer) via the Web. The company failed because it did not carefully consider state laws and its relationships with dealers.

Many state laws do not permit cutting an agent out of the sale. State franchising laws did not allow Ford to bypass its dealers. Also, since Ford would still rely on dealers to sell cars to people who do not have access to the Internet or who like to sit in a physical car and test-drive it, it could not cut the relationship all at once. Ford still needed the collaboration of the dealers, if it could overcome the legal hurdles, in order for direct sales to take off.

The Retreat

The circumstances convinced Ford to abandon its plan to sell directly to consumers. The ConsumerConnect unit was disbanded. FordDirect.com is now operated jointly by Ford and its 3,900 Ford and Lincoln Mercury dealerships. The site helps consumers find the vehicles they want, but they then have to find a dealer close to their homes who can deliver the vehicle. Like any car dealer, the site also offers used cars for sale, which is not what Ford would like to do. The price tag of this failed experiment was reported to be a hefty portion of the $1 billion Ford spent on its Internet initiative under Nasser's leadership.
At what point do the public and the courts start to consider a successful strategy as a predatory, unfair business practice that makes competition from other businesses impossible, even if their products are better? For instance, should a firm that takes bold entrepreneurial steps to become a business leader be curbed when it succeeds in becoming powerful? Several court cases against Microsoft, the software industry leader, have focused on these questions. However, the questions are not simply legal issues. They are also important because they impact the economy and, as a result, society.

**Historical Background.** In the 1970s, Microsoft was a small software company headed by its young president, Bill Gates, who established the company at age 19. The company was fortunate to find and buy an operating system from a small company in Seattle, Washington, for $50,000. An operating system (OS) is the software program that “mediates” between any computer program and the computer. Every application is developed with a particular operating system, or several operating systems, in mind. To a great extent, the operating system determines which applications a computer can run. Therefore, it is an extremely important program. We discuss operating systems and other types of software in Chapter 5, “Business Software.”

So, people who purchased a computer had to consider the OS to determine which applications they could run on their computer. After Microsoft bought the operating system, it entered into a contract with IBM, the most powerful computer manufacturer at that time. IBM needed an operating system for its new creation, the IBM PC, and they chose Microsoft's DOS (Disk Operating System). While Microsoft did not make much money on the IBM deal, its executives realized the strategic potential of contracting with “the big guy.” Indeed, the strategy paid off. Soon, Compaq (now part of Hewlett-Packard) and many other manufacturers started to market IBM clones, cheaper computers that performed as well as IBM PCs and that could run the same operating system and applications. Because Microsoft's contract with IBM allowed it to sell DOS to other parties, it made a fortune selling DOS to Compaq and others. Later, Microsoft developed Windows, an improved operating system, and the success story repeated itself. To this day, the majority of buyers of personal computers also buy a copy of some version of Windows.

One major key to gaining a decent share of the new Internet market was the widespread use of Web browsers. In the mid-1990s, more than 80 percent of Web surfers used Netscape's browsers. Netscape (now part of AOL) was a young, entrepreneurial company selling innovative products. Microsoft decided to increase its own browser's market share of about 15 percent to a leading position. If a great number of people used its browser, Microsoft could expect hefty sales of related software, such as server management applications.

**Controversial Practices.** No one would deny that Microsoft's attempt to compete in the browser market was legitimate. While Netscape gave its browsers away to individuals and educational institutions but charged for-profit organizations, Microsoft gave its browser to everyone free of charge. Also, the company took advantage of Windows dominance; it started bundling its browser with Windows, practically forcing any PC maker who wanted to sell the machines with the operating system installed to also install Internet Explorer (IE). The great majority of new PC owners used IE without even trying any other browser.

Within two years, a majority of Web surfers were using IE. But Netscape, the U.S. Department of Justice, and many individuals considered Microsoft's tactics unfair. Microsoft used its muscle in the operating system market to compel sellers of personal computers to include a copy of Internet Explorer with Windows. Furthermore, the browser was inseparable from the newer Windows version, Windows 98. Since sellers had to include Windows on every machine, and because it is practically the only operating system most buyers would accept, sellers had no choice but to succumb to the pressure. The U.S. Department of Justice and the Attorneys General of several states filed lawsuits claiming Microsoft violated fair trade practices. Subsequently, legal authorities in other countries, such as the European Union (EU) and Taiwan, also either probed the company or sued it. In 2004, the EU's antitrust office fined Microsoft 497 million euros ($665 million) for abusively wielding Windows' monopoly and for locking competitors out of the software market. Meanwhile, as competition in the digital audio and video media increased, Microsoft bundled its Media Player software with the Windows OS. In 2002, the U.S. Department of Justice settled with Microsoft on this issue, requiring the company only to enable users to hide Media Player and set another application as the default player. The EU demanded that Microsoft sell Windows without Media Player.
It also demanded that the company allow all software developers access to information about Windows, so that they could develop applications that would compete well with Microsoft’s own applications. The EU claimed that developers of nonproprietary software (software that is not owned by anyone and can be used free of charge) were denied access to the Windows information altogether. If the company did not stop these practices, the EU threatened it with additional fines reaching 5 percent of the company’s daily worldwide sales revenue until the company complied with the EU’s demands.

Contrary to public perception, the United States, the European Union, and many other countries do not outlaw monopolies. They only forbid unfair use of monoplistic power. Because anyone may compete in any market, it would be unfair to punish an entrepreneur for marketing unique products and mustering market power of any magnitude. Of concern in the eyes of U.S. law, for example, are two issues: (1) have any unfair practices helped the company gain monoplistic power, and (2) does the monopolistic situation serve customers well, or does it hurt them?

• **Up Side, Down Side.** Microsoft argues that although it could charge higher prices for Windows, it has not, because it wants to make Windows affordable to all. Microsoft also argues that, unlike typical monopolists, it invests huge amounts of money in research and development, which eventually benefit society in the form of better and less-expensive products. Microsoft’s rivals in the software industry claim that Microsoft’s practices stifle true competition. Both claims are difficult to measure. Some observers argue that allowing the same company to develop operating systems and many applications is good for consumers: the applications are compatible with each other; all use the same interface of menus and icons. Others suggest that Microsoft should be broken into two organizations, one that develops operating systems and another that develops only applications and competes fairly in that market. And some organizations and individuals simply fear the great power that a single person, Bill Gates, holds in an industry that so greatly impacts our economy and society. What is your opinion? What would you do about this issue?
involves great risk: there is no experience from which to learn, no guarantees that the technology will work well, and no certainty that customers and employees will welcome it.

Being on the bleeding edge often means that implementation costs are significantly more than anticipated, that the new technology does not work as well as expected, or that the parties who were supposed to benefit—employees, customers, or suppliers—do not like using it. Thus, instead of leading, the organization ends up bleeding, that is, suffering from high cost and lost market share. For this reason, some organizations decide to let competitors test new technology before they adopt it. They risk losing the initial rewards they might reap, but if a competitor succeeds, they can quickly adopt the technology and even try to use it better than the pioneering organization.

Microsoft generally takes this approach. It seizes an existing idea, improves it, and promotes the result with its great marketing power. For instance, the company did not invent word processing, but Word is the most popular word-processing application today. The company did not invent the electronic spreadsheet, but Excel is the most popular spreadsheet application. And Microsoft was not the first to introduce a PC database management application, but it sells the highly popular Access. The company joined the Internet rush late, but it developed and gave away Internet Explorer, a Web browser that competed with the highly popular Netscape Navigator and now dominates the market (in part because it was given free to everyone, including for-profit businesses). You might call this approach competing by emulating and improving, rather than competing by being on the leading edge.

Sometimes, companies wait quite a long time to ensure that a technology has matured before they start using it, even at the risk of diminishing their strategic position. Although data warehousing—the organization and summarization of huge amounts of transactional records for later analysis—has been around since the mid-1990s, The Home Depot, Inc., decided only in 2002 to build a data warehouse. Home Depot is the world’s largest home improvement retailer. It started the project years after its main rival in the United States, Lowe’s, had implemented a well-functioning data warehouse, which it used effectively for strategic decision making.
Some ISs have become strategic tools as a result of strategic planning; others have evolved into strategic tools. To compete in the market, executives need to define strategic goals and determine whether new or improved ISs can support these goals. Rather than waiting complacently until a problem occurs, businesses actively look for opportunities to improve their position with information systems.

An IS that helps gain strategic advantage is called a strategic information system (SIS). To assure optimal utilization of IT for competitive advantage, executives must participate in generating ideas and champion new, innovative uses of information systems. In recent years, many of these ideas involved using the Internet.

A company achieves strategic advantage by using strategy to maximize its strengths, resulting in a competitive advantage.

Strategic advantage is often achieved by one or a combination of the following initiatives. Cost reduction enables a business to sell more units of its products or services while maintaining or increasing its profit margin. Raising barriers to potential entrants to the industry lets an organization maintain a sizable market share by developing systems that are prohibitively expensive for competitors to emulate. By establishing high switching costs, a business can make buying from competitors unattractive to clients. Developing totally new products and services can create an entirely new market for an organization, which can also enjoy the advantage of being a first mover for that product and market. And if the organization cannot create new products or services, it can still enjoy competitive advantage by differentiating its products so that customers view them as better than a competitor’s products. Organizations also attain advantage by enhancing existing products or services. Many new services are the fruits of alliances between companies: each contributes its own expertise to package services that entice customers with an overall value greater than that offered by the separate services individually. Licking in clients or suppliers, that is, creating conditions that make dealing with competitors infeasible, is a powerful strategy to gain advantage.

In the software industry, creating standards often creates strategic advantage. A standard is an application used by a significant share of the users. To this end, many companies go as far as giving software away. When the standard has been established, the company enjoys a large sales volume of compatible and add-on software. Microsoft, the software giant, has been found guilty of using unfair trade practices in trying to establish standards and squash competitors.

Reengineering is the process of designing a business process from scratch to achieve hundreds of percent points in improvement rates. Almost always, reengineering involves implementing new ISs.

Strategic advantages from information systems are often short lived, because competitors quickly emulate the systems for their own benefit. Therefore, looking for new opportunities must be an ongoing process.

To maintain a strategic advantage, organizations must develop new features to keep the system on the leading edge. But they must be mindful of the bleeding edge, the undesirable results (such as huge ongoing costs and loss of customers) of being the first to use new technology with the hope of establishing a competitive advantage. Early adopters find themselves on the bleeding edge when the new technology is not yet fully reliable or when customers are uncomfortable with it.
EATS2GO REVISITED

As you saw in the continuing story of Eats2Go, the three young entrepreneurs have gained experience, used information systems to research options, and instituted changes to remain profitable and expand their business. They also face some new opportunities and challenges for the strategic direction of their business. The next section explores some of their strategic initiatives to see whether you think they can make improvements.

What Would You Do?

1. Through their alliance with the shopping mall owner, Eats2Go has increased its business to three lunch carts. From the case at the beginning of the chapter, identify some strategic moves the three have already made to help them compete. Have any of their partners operated strategically? How? Be sure to consider these ways to gain a competitive advantage:
   - Reduce costs.
   - Raise barriers to entrants.
   - Establish high switching costs.
   - Create new products and services.
   - Differentiate products and services.
   - Enhance products or services.
   - Establish alliances.
   - Lock in suppliers or buyers.

2. Review the decision that Juan, Kendra, and Dave made not to pursue organic labels for their food. Was this decision correct, in your opinion? What further information could they use to monitor the organic food market in the future?

New Perspectives

1. Operating from a new kitchen space and becoming a chip manufacturer offers Juan, Kendra, and Dave the opportunity to rethink completely their food preparation processes—to reengineer. Think of some options the three can pursue in redesigning their food preparation for both their lunch business and chip manufacturing. Consider how the changes can help them compete effectively.

2. With the Subwich franchise as a new competitor to the pushcart lunch business, Juan, Kendra, and Dave need to monitor costs and profits closely, and they need to keep making changes to remain competitive. They already have a loyal customer base. How can they use their existing information systems to compete effectively against Subwich? Suggest at least three ways to help them compete. Would a Web site help them at all? Why or why not?

KEY TERMS

- affiliate program, 46
- alliance, 45
- bleeding edge, 56
- competitive advantage, 38
- creating new and unique products or services, 42
- creating a standard, 48
- critical mass, 42
- differentiation, 43
- enhancing existing products or services, 44
- first mover, 42
- late mover, 53
- locking in clients or suppliers, 47
- raising barriers to entrants, 41
- reducing costs, 40
- reengineering, 49
- strategic advantage, 38
- strategic information system (SIS), 38
- switching costs, 41
REVIEW QUESTIONS

1. In what respect does business strategy resemble military strategy?
2. What should an information system achieve for an organization in order to be considered a strategic information system?
3. What strategic goal can an IS attain that does not involve wresting market share from competitors?
4. What conditions must exist in an organization planning an SIS?
5. Sometimes it is difficult to convince top management to commit funds to develop and implement an SIS. Why?
6. An SIS often offers a corporation short-lived advantages. How so?
7. What is reengineering? What does it have to do with IT?
8. Software developers have made great efforts to “create a standard.” What does creating a standard mean in the software industry, and why are companies doing it?
9. What should an organization do to sustain the strategic benefits of an IS?
10. Adobe encourages PC users to download its Acrobat Reader free of charge. Macromedia encourages people to download its Flash player free of charge. How does this eventually help them strategically? If they give the application away, how does their generosity help them make money?
11. Referring to the list of strategic moves (see Figure 2.2), classify the initiatives of JetBlue.
12. What were the reasons for the failure of FordDirect.com?
13. The executives of well-established airlines are not less smart than those at JetBlue, and yet, their larger airlines have not done what JetBlue has done. Why?
14. What does the term “first mover” mean?
15. Can a late mover have any strategic advantage with IT? What is the risk that a late mover takes?
16. What does the term “bleeding edge” mean?

DISCUSSION QUESTIONS

1. Can an off-the-shelf computer program be used as an SIS? Why or why not?
2. The organizations that eventually use the systems, not consulting firms, develop more successful SISs. What might be the reasons for this?
3. You head a small company. You have an idea for software that can give your company an advantage over competitors. Since you do not have a staff that can develop and implement the software, you decide to approach a software company. Other than the technical requirements, what should you desire of the software company?
4. Some argue that an SIS gives a company an unfair advantage and might even cause the demise of smaller, weaker companies that cannot afford to build similar systems. Is this good or bad for customers? Explain your opinion.
5. Why has the Web been the arena of so much competition in recent years?
6. SISs play a major role in almost every reengineering project. Why?
7. Accounting and payroll ISs have never become SISs. Why? What other types of ISs are unlikely to ever gain their owners strategic advantage?
8. Ford’s CEO envisioned a future in which consumers log on to an automaker’s Web site, design their cars online, wait for the cars to be manufactured (design transformed into electronic blueprints), and have the car delivered to their door. Do you think we will see this in practice within the next decade? Why, or why not?
9. Give two examples of other products or services whose delivery time could be cut from days to minutes with the aid of IT.
10. What is the role of ISs in alliances such as airlines and credit-card issuers? Why would such alliances be practically infeasible without IT?
11. JetBlue uses new software that has not been tested by other companies. If you were a CIO, would you use software that is still in beta (untested with live data) in your organization?
12. You are an executive for a large organization that provides services to state and federal agencies. A software development firm approached you with an offer to implement new software that might give your organization a strategic advantage by reducing the service delivery cycle by several days. What would you do to avoid putting your organization on the “bleeding edge” while still considering the new software?

13. When a software developer creates a de facto standard (i.e., not the official standard, but something so widely used that it becomes a standard), it has monopolistic power. Should governments intervene to prevent this practice? Explain your opinion.

14. Suppose you are a venture capitalist considering a proposal to invest millions of dollars in a new online business. What questions would you ask the enthusiastic young people who have approached you for funds?

15. What are the potential risks of a single organization controlling much of the market of essential software?

APPLYING CONCEPTS

1. Use a literature search program to find a news story on a strategic information system. Write a short report that explains: (a) the industry in which the business competes, (b) the function(s) of the system, and (c) how the system gives the company strategic advantage. For (c), identify the type of strategic move that the organization made from the list provided in Figure 2.1. Suggest how the company might improve the system to maintain its advantage in the future, when competitors mimic the system. Alternatively, find a story on a new business model. In your write-up explain (a) the term “business model,” (b) the particular business model you found, and (c) how information systems support this business model.

2. Prepare a brief essay that includes an example of each of the following strategic moves: raising barriers to entrants (Hint: intellectual property), establishing high switching costs, creating a new product or service (Hint: the Web), and establishing alliances. The examples do not necessarily have to involve IT. Do not use examples already presented in the text. You may use examples from actual events or your own suggestions, but the examples must be practical.

3. A publishing company is contemplating publishing e-books on small CDs. To read the discs, users will need a device called an electronic book reader. At least two firms have developed e-book technologies that the publisher can adopt. The publisher hires you as a strategic consultant. Write a report explaining the strategic moves you suggest. What would you advise the company to do try to develop its own e-book reader or purchase a license for existing technology? Who should be the initial target audience for the product? What should be the company’s major goal in the first two or three years: profit, market share, user base, technological improvement, or perhaps having the largest salesforce in this industry? Should the company give anything away? Prepare a detailed report enumerating and explaining your suggestions.

4. You are a software-marketing expert. A new software development firm has hired you to advise it on pricing and marketing strategies of its new application. After some research, you conclude that the firm can be successful either by selling at a high unit price (in which case, probably only businesses would purchase licenses to use the application), or at a very low price, which would be attractive to many individuals and companies. You estimate that by the end of the sixth year of the marketing effort competing software will be offered, which will bring the number of units sold to zero. For alternative A, the price would be $400 per license, and you expect 500 adopters in the first year and an annual growth of adopters of 70 percent. For alternative B, the price would be $30, and you expect 600,000 adopters in the first year and an annual growth of adopters of 4 percent. Use a spreadsheet application to calculate revenue, and tell the firm which strategy is expected to bring in greater revenue. Enter the prices and number of first-year adopters for each alternative only once, each in a single cell, and use absolute referencing to those cells.
HANDS-ON ACTIVITIES

1. Use PowerPoint or other presentation software to present the ideas you generated in Question 1 or 2 of “Applying Concepts.” Use the program’s best features to make a convincing and visually pleasing presentation.

2. Do a library or Web search of business journals and magazines such as the Wall Street Journal, BusinessWeek, Forbes, or Fortune. Find a story on a business’s strategic use of data, information, or information systems. (Note: The writer might not have identified the strategic use, but you might find that the use served strategic goals.) Prepare a report explaining the opportunity seized. Did the organization create a new product or service, improve one, or manage to capture a significantly greater market share of an existing product or service? How did the data, information, or information system play a major role in the strategic move?

3. Consider the information provided in the “Ethical & Societal Issues” box of this chapter. Prepare two extensive lists, pros and cons. The pros should aim to convince an audience why Microsoft, or a similar company, should be left alone to practice its business maneuvers. The cons should aim to convince an audience why governments should intervene in how corporations such as Microsoft behave and explain what such interventions are meant to accomplish.

TEAM ACTIVITIES

1. Brainstorm with your team to answer the question: “Which information technology over the past two years has epitomized a unique product or service that was ‘ahead of the curve’ for a significant amount of time?” This might be a physical product using IT or an online service that was, or still is, unique. List the reasons each of the team members liked this product or service so much.

2. Some information technologies had a certain original purpose but were creatively used to serve additional purposes. For example, companies have used caller ID to retrieve customer records as soon as a customer telephones. This saves labor and increases service quality. You and your teammates are consultants who work with many businesses. Offering your clients original ideas will increase your success. Select an information technology or IT feature that can be leveraged in ways not originally conceived. How can your clients (in manufacturing, service, or any other business sector) use this feature to gain strategic advantage? Prepare a rationale.

3. Someone suggested that you and your teammates establish the first Web cemetery for pets. Obviously, you cannot bury any pets there, but there might be other services you can offer. Prepare a written plan that describes what you would offer, what you would charge for different features, and how you can sustain your strategic position if traditional pet cemeteries go online. (Note: There might be some online pet cemeteries. Assume there are none.)
COMPANION CD QUESTIONS

1. Clear the cookies from your computer. Visit Amazon.com or another e-commerce site listed in this chapter. Browse the site and click on items you might buy and add them to your cart. Don’t actually make a purchase. Open the cookie file on your computer. How many cookies did the site put on your computer?

2. How can Excel’s goal seek function be used in strategic planning? Give an example.

VIDEO QUESTIONS

1. Do some research to determine how big the potential market for this product is. Who are its competitors (think about products that are designed to do similar things (e.g., prevent auto theft) but may not be a direct competitor)?

2. Name 3 companies whose products or services might be potential strategic alliances with this product.
IT Makes Cents

Does Avis Walton mind receiving orders from a machine when he works? No, he actually thinks it is “cool.” Avis works as a “picker” for 99 Cents Only Stores. Walton spends his workday in a 750,000 square-foot distribution center in Katy, near Houston, Texas, riding an electric vehicle. He wears an earbud that streams instructions from a central information system. The female voice gives him a row number, then a section number, and then a bin number. He scans the tag on the bin’s front with a wireless handheld computer to confirm that he is at the right bin. The voice then orders him to pick so many cases. He gets off the vehicle, picks up the boxes, and places them on a pallet. He confirms the pick into a microphone. The voice now sends him to his next assignment.

He and his 15 fellow pickers are used to the electronic voice. It is generated by a computer that runs the distribution center’s warehouse-management software. It instructs them which items to pick for individual stores. It also calculates the most efficient routes while ensuring that the carts do not crash into each other. The “lady” tells the pickers which bins need to be replenished and where to find the items to replenish those bins. Pickers place the boxes on a three-story conveyor: Laser scanners quickly scan box tags and route the boxes to 20 different lanes, ensuring that each box is on the proper path to a pallet waiting below for specific stores. The system also plans leading to utilize maximum space on each truck.

99 Cents Only Stores is America’s oldest chain of one-price stores. The chain consists of 220 stores in California, Nevada, Arizona, and Texas. The business was started as single store in Los Angeles in 1984. David Gold, age 71, still comes to the office daily at 4 a.m. The company never had a year in which it lost money. Between 1996, when it went public, and 2003, its stock price climbed from $3.12 to $36.22. There are several other chains of fixed-price stores in the United States, and competition is fierce. The chain does better than its competitors in every measure important in the retail industry: sales per square foot and net profit margin on revenue. In 2003, profit margin was 8.3 percent while profit at Wal-Mart was 3.1 percent and at Kroger Co., the supermarket chain, a mere 2.1 percent (but typical for supermarkets). Gold, who recently stepped down as the company’s CEO, remains active as the Chairman of the Board, and his two sons and son-in-law run the company. The Gold family owns about 35 percent of the company.

Despite sales revenues of $862.5 million in 2003, the amount of spending on IT is relatively small, only $5 million in 2003. The company’s 2004 profit was slightly less, $383 million, but still the proportion of IT spending was small. However, Robert Adams, vice president of IS, selects IT projects carefully. Each store has a wireless local area network (WLAN) and connection to the Internet. All district managers carry cell phones, which they can also use as walkie-talkies. When Adams moved from another company to work for the chain, he was afraid he would not get the budget he might need for new systems because the management would be cheap and not see the need for technology. The contrary happened. Because the company is family-run, decisions are made quickly. He does not need to go through formal meetings. Therefore, the time between request and implementation is very short.

The fixed-price-store industry, popularly known as dollar stores, has been slow to adopt state-of-the-art technology. Only recently such chains started adopting modern systems, and 99 Cents seems to be ahead of them. Some software companies, such as HighJump Software, design systems that can specifically support the operations of these chains. IT has enabled 99 Cents to differentiate itself from similar chains. The store areas of competitors are typically 4,000 to 6,000 square feet, and each store has annual revenue of $1 million. A 99 Cents store is 18,000 square feet and has annual revenue of $4.8 million. The targeted audience, too, is different. While other stores target neighborhoods with low to medium incomes, David Gold observed that rich people, too, like to save money. His company’s most profitable store is located close to Beverly Hills, has an area of 18,000 square feet, and earns an average of $10 million annually.

If you have shopped more than once at the same dollar store, you probably noticed that an item you purchased the first time is no longer available on a subsequent visit. This is typical, because dollar stores purchase not by item but by price. When purchasing officers spot an opportunity to buy a lot of a discontinued product, they offer a very low price and purchase it. It is difficult for these chains to reorder the same items at the same low price. 99 Cents succeeds in reordering 60 percent of its inventory. The rest are one-time-only close-outs.

Gold and his executives have a simple goal, which is to establish the shortest path between an inexpen-

sive item and a paying customer. This drives all the decisions on which IT to pursue. And IT plays a major role in identifying suitable merchandise, efficiently...
and graphs. Managers receive real-time inventory levels, facility and worker performance expressed as metrics, and the status of incoming shipments. Management can use a Web-based system to access information about where to find it. At the retail stores, employees from Warehouse Advantage and tells workers what to leave. A Voxware computer receives the picking profile for each product. 

1995. 99 Cents paid Albertson’s $23 million for it. Albertson’s had invested $80 million in the facility in 1995. 99 Cents paid Albertson’s $23 million for it. Adams had only four months to equip the warehouse with the proper IT so it could start operations. This time it did not make business sense to develop code in-house. Adams contacted HighJump Software, a subsidiary of 3M, which sells warehouse management software. HighJump’s software, called Warehouse Advantage, supports all the activities that occur from the time products enter the warehouse to the moment they leave. A Voxware computer receives the picking profile from Warehouse Advantage and tells workers what to pick and where to find it. At the retail stores, employees can use a Web-based system to access information about the status of incoming shipments. Management uses Advantage Dashboard for a high-level view of facility and worker performance expressed as metrics and graphs. Managers receive real-time inventory levels and order volumes of various products. The new systems are proving themselves. Picking accuracy, that is, picking and shipping the right item, is 90 percent at the California distribution center. At the Texas center it is 99 percent. Picking speed at Texas is 20 percent greater than at the California center. The system works so well that Adams decided to implement it in California.

With all his enthusiasm for IT, Adams avoids implementing cutting-edge technologies. He says the company is too small and traditional to sustain “bleeding edge” technologies. The strategic advantage he believes 99 Cents has is in the business intelligence with which the company integrates proven technologies into its operations. He says he prioritizes IT projects by how much obvious return on investment he sees in them. When it is obvious a certain technology will gain his company efficiency, he implements it. Often, his team completes only a part of a project, so it can start a new project that helps the company more. Adams says implementing allows the company to get the greatest benefits from all IT projects. What is not completed now can be completed after that other, more important project is completed.

All dollar store customers like bargains, but the customers of 99 Cents Only visit their favorite stores more often and buy more. And they probably do not know that ever-better IT ensures that they can find those great, inexpensive items on the shelves almost as soon as 99 Cents Only can find them.


Thinking About the Case

1. Is 99 Cents Only on the leading edge of IT? Is it on the bleeding edge?
2. What characteristics of the dollar store industry make it so important to increase efficiency?
3. The company has performed better than its competitors. In terms of the eight initiatives discussed in this chapter, which initiative or initiatives has gained it the competitive advantage?
4. 99 Cents Only must modify its information systems frequently. Why?
5. Often, CIOs are frustrated with the time it takes senior management to support their strategic initiatives and with the difficulty of earmarking funds for such initiatives. How is 99 Cents Only different in this respect?
Where There’s Demand There’s a Business

While many twenty-somethings in the late 1990s focused their efforts on creating the hottest new dot-com and launching the next huge IPO (initial public offering) of stock, others drew inspiration for their success from unfulfilled practical desires involving a decades-old piece of technology. The story of one San Franciscan who worked as a freelance cameraman for a local TV station illustrates what can happen when imagination, strategic planning, and IT development mix.

Babak Farahi noticed that the station where he worked consistently rejected viewers’ requests for tapes of their children, friends, or pets that had appeared on the station’s news broadcast the day before. But, he thought, if there is a demand for such television snippets, why not sell them? So the 24-year-old set up four VCRs in his parents’ home, recorded the news every day, and persuaded the TV station’s receptionists to refer viewers to him when calling to request a copy. The plan worked. His clients included small businesses, especially restaurants, and, of course, many parents who wanted copies of their children’s TV appearances.

The cameraman did not grow complacent with his success. He took his business to a whole new realm after something caught his eye while waiting for a flight at San Francisco International Airport. He noticed that the TV monitor in the waiting area had printed text almost 25,000 hours of daily coverage, and is the industry’s most specialized archive.

Further research uncovered two important findings essential for his new idea to thrive. First, Congress had recently passed a law that would soon mandate that the hardware and software for closed-caption text captioning for each show with text at the bottom of the screen. This meant that companies could know if they appeared on the station’s news broadcast the day before. But, he thought, if there is a demand for such television snippets, why not sell them? So the 24-year-old set up four VCRs in his parents’ home, recorded the news every day, and persuaded the TV station’s receptionists to refer viewers to him when calling to request a copy. The plan worked. His clients included small businesses, especially restaurants, and, of course, many parents who wanted copies of their children’s TV appearances.

The cameraman did not grow complacent with his success. He took his business to a whole new realm after something caught his eye while waiting for a flight at San Francisco International Airport. He noticed that the TV monitor in the waiting area had printed text at the bottom of the screen. Could he expand his business by creating a closed-caption database of company products and names for sale to clients interested in monitoring press coverage of their business? This database would actively store televised references to companies without having to wait for specific companies to request the service. Since the captions were stored in digital form, he could use them to do an electronic search for words, and therefore for business names.

Within a year, a new company was born, Multivision. Based in Oakland, California, Multivision enables companies to automatically receive TV clips with closed captions that mention their companies via the Internet. Clients can receive all TV mentions or ones that are specific to certain fields, like a show, a network, or a time of day. Multivision has eight offices throughout the United States and records over 75 percent of the 210 TV markets in the country. The company’s toughest competitor is the industry leader, Video Monitoring Services (VMS), which has existed 16 years longer than Multivision but introduced closed-caption searches three years after Multivision. In other words, VMS imitated the idea and supported it with its huge financial resources and brand recognition.

Multivision’s sales were projected to reach $17 million in 2005, ensuring it the second largest share in a $100 million market. Multivision’s future plans include expansion into international markets, where voice-recognition and image-recognition software could deliver the same service even in markets without closed captioning. On the domestic front, the company aims to focus more on niche broadcasters, with the channels offered growing faster than ever. Digital Showroom, a proprietary application of Multivision, allows customers to monitor their broadcast coverage, watch the actual video of what aired, analyze the different media outlets, and present the results to their perspective marketing teams, so they can take the best advantage of the media exposure. Multivision’s coverage includes more than 1,000 television stations, almost 25,000 hours of daily coverage, and is the industry’s most specialized archive.

The goal, says Babak Farahi, is to watch every television station in the country for certain keywords, such as the name of a company. Clients can buy “buzz reports” to determine how much media exposure they received. In 2005, Multivision covered the United States’ 160 television markets, which serve 98 percent of American viewers as well as 20 countries on 5 continents. Ongoing television and radio feeds from England, Ireland, South Africa, Australia, Malaysia, Singapore, Spain, Poland, Canada, and other countries are available through Multivision’s proprietary and industry-leading content database. Video can be made available for viewing online through Multivision’s Digital Showroom. The company now monitors and indexes broadcast content more than any other organization. Farahi says this satisfies his clients’ ever-growing need to monitor as much broadcast content in as many markets as possible to effectively manage their brand, product, and messaging objectives.

Thinking About the Case

1. What was Farahi’s original idea?
2. What does this idea have to do with IT? Why is IT so important in implementing this idea?
3. Was Farahi’s idea aimed at an existing market, or did he create a new market? Explain.
4. Was Multivision a first mover? If so, did its moves guarantee it market dominance? Explain.
5. Multivision could not find an appropriate software application to serve its purpose in indexing and archiving video, so it developed its own. How does developing its own software serve its strategic advantage?