STUDENT LEARNING OBJECTIVES

After completing this chapter, you will be able to answer the following questions:

1. How does Porter’s competitive forces model help companies develop competitive strategies using information systems?

2. How do the value chain and value web models help businesses identify opportunities for strategic information system applications?

3. How do information systems help businesses use synergies, core competencies, and network-based strategies to achieve competitive advantage?

4. How do competing on a global scale and promoting quality enhance competitive advantage?

5. What is the role of business process management (BPM) in enhancing competitiveness?
CHAPTER OUTLINE

Chapter-Opening Case: Verizon or AT&T: Which Company Has the Best Digital Strategy?

3.1 Using Information Systems to Achieve Competitive Advantage
3.2 Competing on a Global Scale
3.3 Competing on Quality and Design
3.4 Competing on Business Processes
3.5 Hands-On MIS Projects

Business Problem-Solving Case: EBay Fine-Tunes Its Strategy

VERIZON OR AT&T: WHICH COMPANY HAS THE BEST DIGITAL STRATEGY?

Verizon and AT&T are the two largest telecommunications companies in the United States. Today their customers do much more than make phone calls. They use their networks to watch high-definition (HD) TV; surf the Internet; send e-mail, text, and video messages; share photos; watch videos online; and conduct videoconferences around the globe. All of these products and services are digital.

Competition in this industry is unusually intense. Both companies are trying to outflank one another by refining their wireless, landline, and high-speed Internet networks and expanding the range of products, applications and services offered to customers. But there are differences. AT&T is staking its growth on the wireless market by aggressively marketing leading-edge high-end devices such as the iPhone. Verizon is betting on its premium television service to homeowners.

For a number of years, Verizon has tried to blunt competition by boasting that its wireless network is the largest and most reliable in the United States. Now, however, it is also focusing on expanding its FiOS TV and high-speed Internet services. FiOS is a bundled communications (Internet, telephone, and TV) service, operating over a
fiber-optic network that extends all the way to individual homes. It delivers Internet service at speeds five times faster than cable competitors, along with over 100 high-definition television channels, over 500 digital channels, and over 2,500 videos on demand.

Verizon’s management believes the company “can’t roll out FiOS fast enough.” Despite prices that average well above $130 for a bundle of Internet, TV and voice services, 20 percent of the homes where FiOS is available sign up for the service.

Verizon’s FiOS move is more risky financially than AT&T’s, because up-front costs are high and it will take time to generate healthy profit margins on this line of business. Building the fiber system (including extending fiber-optic cabling to individual homes) costs about $4,000 per customer.

AT&T’s strategy is more conservative. Why spend so much money on new wires when cell phones are becoming ubiquitous and profitable? Why not partner with other companies to capitalize on their technology innovations? That was the rationale for AT&T contracting with Apple Computer to be the exclusive network for its iPhone. Even though AT&T subsidizes some of the iPhone’s cost to consumers, the iPhone’s streamlined design, touch screen, exclusive access to the iTunes music service, and 65,000 or so downloadable applications have made it an instant hit. AT&T has been almost neck-and-neck with Verizon in the wireless business. Moreover, AT&T profit margins from the iPhone grow over time because iPhone subscribers are required to sign a two-year contract for a higher-price wireless service plan.

In the long term, however, Verizon’s ability to offer TV as part of a bundle of phone, Internet, and television services may give it the competitive edge. Even without an iconic device such as the iPhone, Verizon’s wireless business has prospered by relying on network quality and customer service. And Verizon is hedging its bets. In April 2009, Verizon Wireless started talking with Apple, about selling a version of the iPhone that would work on Verizon’s network. AT&T’s exclusive U.S. rights to the iPhone expire in 2010. If Verizon contracts with Apple to sell the iPhone, the competitive balance will shift again.


The story of Verizon and AT&T illustrates some of the ways that information systems help businesses compete—and also the challenges of sustaining a competitive advantage. The telecommunications industry in which both companies operate is extremely crowded and competitive, with telecommunications companies vying with cable companies, new upstarts, and each other to provide a wide array of digital services as well as voice transmission. To meet the challenges of surviving and prospering in this environment, each of these companies focused on a different competitive strategy using information technology.

The chapter-opening diagram calls attention to important points raised by this case and this chapter. Both companies saw there were opportunities to use information technology to offer new products and services. AT&T offered enhanced wireless services using the iPhone, while Verizon countered with its FiOS high-capacity Internet, telephone, and digital TV services using fiber-optic landlines. AT&T’s strategy emphasized keeping costs low while capitalizing on innovations from other technology vendors. Verizon’s strategy involved high up-front costs to build its high-capacity FiOS network infrastructure, and it also invested in providing a high-level of network reliability and customer service.

This case study also shows that it is difficult to sustain a competitive advantage. Exclusive rights to use the highly popular iPhone on its network brought AT&T millions of new customers and enhanced its competitive position. But if Apple allows Verizon to sell a version of the iPhone for its network, AT&T’s competitive advantage may disappear.
3.1 Using Information Systems to Achieve Competitive Advantage

In almost every industry you examine, you will find that some firms do better than most others. There’s almost always a standout firm. In the automotive industry, Toyota is considered a superior performer. In pure online retail, Amazon is the leader; in offline retail Wal-Mart, the largest retailer on earth, is the leader. In online music, Apple’s iTunes is considered the leader with more than 75 percent of the downloaded music market, and in the related industry of digital music players, the iPod is the leader. In Web search, Google is considered the leader.

Firms that “do better” than others are said to have a competitive advantage over others: They either have access to special resources that others do not, or they are able to use commonly available resources more efficiently—usually because of superior knowledge and information assets. In any event, they do better in terms of revenue growth, profitability, or productivity growth (efficiency), all of which ultimately in the long run translate into higher stock market valuations than their competitors.

But why do some firms do better than others and how do they achieve competitive advantage? How can you analyze a business and identify its strategic advantages? How can you develop a strategic advantage for your own business? And how do information systems contribute to strategic advantages? One answer to these questions is Michael Porter’s competitive forces model.

PORTER’S COMPETITIVE FORCES MODEL

Arguably, the most widely used model for understanding competitive advantage is Michael Porter’s competitive forces model (see Figure 3-1). This model provides a general view of the firm, its competitors, and the firm’s environment. Recall in Chapter 2 we described the importance of a firm’s environment and the dependence of firms on environments. Porter’s model is all about the firm’s general business environment. In this model, five competitive forces shape the fate of the firm.
Traditional Competitors
All firms share market space with other competitors who are continuously devising new, more efficient ways to produce by introducing new products and services, and attempting to attract customers by developing their brands and imposing switching costs on their customers.

New Market Entrants
In a free economy with mobile labor and financial resources, new companies are always entering the marketplace. In some industries, there are very low barriers to entry, whereas in other industries, entry is very difficult. For instance, it is fairly easy to start a pizza business or just about any small retail business, but it is much more expensive and difficult to enter the computer chip business, which has very high capital costs and requires significant expertise and knowledge that is hard to obtain. New companies have several possible advantages: They are not locked into old plants and equipment, they often hire younger workers who are less expensive and perhaps more innovative, they are not encumbered by old worn-out brand names, and they are “more hungry” (more highly motivated) than traditional occupants of an industry. These advantages are also their weakness: They depend on outside financing for new plants and equipment, which can be expensive; they have a less-experienced workforce; and they have little brand recognition.

Substitute Products and Services
In just about every industry, there are substitutes that your customers might use if your prices become too high. New technologies create new substitutes all the time. Even oil has substitutes: Ethanol can substitute for gasoline in cars; vegetable oil for diesel fuel in trucks; and wind, solar, coal, and hydro power for industrial electricity generation. Likewise, Internet telephone service can substitute for traditional telephone service, and fiber-optic telephone lines to the home can substitute for cable TV lines. And, of course, an Internet music service that allows you to download music tracks to an iPod is a substitute for CD-based music stores. The more substitute products and services in your industry, the less you can control pricing and the lower your profit margins.

Customers
A profitable company depends in large measure on its ability to attract and retain customers (while denying them to competitors), and charge high prices. The power of customers grows if they can easily switch to a competitor’s products and services, or if they can force a business and its competitors to compete on price alone in a transparent marketplace where
there is little product differentiation, and all prices are known instantly (such as on the Internet). For instance, in the used college textbook market on the Internet, students (customers) can find multiple suppliers of just about any current college textbook. In this case, online customers have extraordinary power over used-book firms.

**Suppliers**
The market power of suppliers can have a significant impact on firm profits, especially when the firm cannot raise prices as fast as suppliers can. The more suppliers a firm has, the greater control it can exercise over those suppliers in terms of price, quality, and delivery schedules. For instance, manufacturers of laptop PCs almost always have multiple competing suppliers of key components, such as keyboards, hard drives, and display screens.

**INFORMATION SYSTEM STRATEGIES FOR DEALING WITH COMPETITIVE FORCES**

So what is a firm to do when it is faced with all these competitive forces? And how can the firm use information systems to counteract some of these forces? How do you prevent substitutes and inhibit new market entrants? How do you become the most successful firm in an industry in terms of profit and share price (two measures of success)?

**Basic Strategy 101: Align the IT with the Business Objectives**
The basic principle of IT strategy for a business is to ensure the technology serves the business, and not the other way around. The research on IT and business performance has found that (a) the more successfully a firm can align its IT with its business goals, the more profitable it will be, and (b) only about one-quarter of firms achieve alignment of IT with business. About half of a business firm’s profits can be explained by alignment of IT with business (Luftman, 2003; Henderson, et al., 1996).

Most businesses get it wrong: IT takes on a life of its own and does not serve management and shareholder interests very well. Instead of business people taking an active role in shaping IT to the enterprise, they ignore it, claim to not understand IT, and tolerate failure in the IT area as just a nuisance to work around. Such firms pay a hefty price in poor performance. Successful firms and managers understand what IT can do and how it works, take an active role in shaping its use, and measure its impact on revenues and profits.

So how do you as a manager achieve this alignment of IT with business? In the following sections, we discuss some basic ways to do this, but here’s a summary:

- Identify your business strategy and goals.
- Break these strategic goals down into concrete activities and processes.
- Identify how you will measure progress towards the business goals (e.g. metrics).
- Ask yourself “How can information technology help me achieve progress towards our business goals and how it will improve our business processes and activities?”
- Measure actual performance. Let the numbers speak.

Let’s see how this works out in practice. There are four generic strategies, each of which often is enabled by using information technology and systems: low-cost leadership, product differentiation, focus on market niche, and strengthening customer and supplier intimacy.

**Low-Cost Leadership**
Use information systems to achieve the lowest operational costs and the lowest prices. The classic example is Wal-Mart. By keeping prices low and shelves well stocked using a legendary inventory replenishment system, Wal-Mart became the leading retail business in the United States. Wal-Mart’s continuous replenishment system sends orders for new merchandise directly to suppliers as soon as consumers pay for their purchases at the cash register. Point-of-sale terminals record the bar code of each item passing the checkout counter and send a purchase transaction directly to a central computer at Wal-Mart.
Supermarkets and large retail stores such as Wal-Mart use sales data captured at the checkout counter to determine which items have sold and need to be reordered. Wal-Mart’s continuous replenishment system transmits orders to restock directly to its suppliers. The system enables Wal-Mart to keep costs low while fine-tuning its merchandise to meet customer demands.

headquarters. The computer collects the orders from all Wal-Mart stores and transmits them to suppliers. Suppliers can also access Wal-Mart’s sales and inventory data using Web technology.

Because the system replenishes inventory with lightning speed, Wal-Mart does not need to spend much money on maintaining large inventories of goods in its own warehouses. The system also enables Wal-Mart to adjust purchases of store items to meet customer demands. Competitors, such as Sears, have been spending 24.9 percent of sales on overhead. But by using systems to keep operating costs low, Wal-Mart pays only 16.6 percent of sales revenue for overhead. (Operating costs average 20.7 percent of sales in the retail industry.)

Wal-Mart’s continuous replenishment system is also an example of an efficient customer response system. An efficient customer response system directly links consumer behavior to distribution and production and supply chains. Wal-Mart’s continuous replenishment system provides such an efficient customer response. Dell Computer Corporation’s assemble-to-order system, described in the following discussion, is another example of an efficient customer response system.

Product Differentiation
Use information systems to enable new products and services, or greatly change the customer convenience in using your existing products and services. For instance, Google continuously introduces new and unique search services on its Web site, such as Google Maps. Apple created iPod, a unique portable digital music player, plus a unique online Web music service where songs can be purchased for $0.69 to $1.29 each. Continuing to innovate, Apple introduced an iPod video player and the music and video-playing iPhone.

Manufacturers and retailers are starting to use information systems to create products and services that are customized and personalized to fit the precise specifications of individual customers. Dell Computer Corporation sells directly to customers using assemble-to-order manufacturing. Individuals, businesses, and government agencies can buy computers directly from Dell, customized with the exact features and components they need. They can place their orders directly using a toll-free telephone number or by accessing Dell’s Web site. Once Dell’s production control receives an order, it directs an assembly
plant to assemble the computer using components from an on-site warehouse based on the configuration specified by the customer.

Lands’ End customers can use its Web site to order jeans, dress pants, chino pants, and shirts custom-tailored to their own specifications. Customers enter their measurements into a form on the Web site, which then transmits each customer’s specifications over a network to a computer that develops an electronic made-to-measure pattern for that customer. The individual patterns are used to drive fabric-cutting equipment at a manufacturing plant. Lands’ End has almost no extra production costs because the process does not require additional warehousing, production overruns, and inventories, and the cost to the customer is only slightly higher than that of a mass-produced garment. This ability to offer individually tailored products or services using the same production resources as mass production is called **mass customization**.

Table 3.1 lists a number of companies that have developed IS-based products and services that other firms have found difficult to copy.

### Focus on Market Niche

Use information systems to enable a specific market focus, and serve this narrow target market better than competitors. Information systems support this strategy by producing and analyzing data for finely tuned sales and marketing techniques. Information systems enable companies to analyze customer buying patterns, tastes, and preferences closely so that they efficiently pitch advertising and marketing campaigns to smaller and smaller target markets.

The data come from a range of sources—credit card transactions, demographic data, purchase data from checkout counter scanners at supermarkets and retail stores, and data collected when people access and interact with Web sites. Sophisticated software tools find patterns in these large pools of data and infer rules from them that can be used to guide decision making. Analysis of such data drives one-to-one marketing where personal messages can be created based on individualized preferences. For example, Hilton Hotels’ OnQ system analyzes detailed data collected on active guests in all of its properties to determine the preferences of each guest and each guest’s profitability. Hilton uses this information to give its most profitable customers additional privileges, such as late checkouts. Contemporary customer relationship management (CRM) systems feature analytical capabilities for this type of intensive data analysis (see Chapters 2 and 8).

The Interactive Session on People provides more detail on how skillfully credit card companies are able to mine customer data in order to develop very fine-grained profiles to predict their most profitable cardholders. As you read this case, try to identify the problems faced by credit card companies and whether these solutions are in consumers’ best interests.

### Strengthen Customer and Supplier Intimacy

Use information systems to tighten linkages with suppliers and develop intimacy with customers. Toyota, Ford, and other automobile manufacturers have information systems that give their suppliers direct access to their production schedules, enabling suppliers to

<table>
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<tr>
<th>IS-Enabled New Products and Services Providing Competitive Advantage</th>
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<tr>
<td><strong>Amazon: One-click shopping</strong></td>
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<tr>
<td><strong>Online music: Apple iPod and iTunes</strong></td>
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<tr>
<td><strong>Golf club customization: Ping</strong></td>
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<tr>
<td><strong>Online person-to-person payment: PayPal.com</strong></td>
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When Kevin Johnson returned from his honeymoon, a letter from American Express was waiting for him. The letter informed Johnson that AmEx was slashing his credit limit by 60 percent. Why? Not because Johnson missed a payment or had bad credit. The letter stated: “other customers who have used their card at establishments where you recently shopped, have a poor repayment history with American Express.” Johnson had started shopping at Wal-Mart. Welcome to the new era of credit card profiling.

Every time you make a purchase with a credit card, a record of that sale is logged into a massive data repository maintained by the card issuer. Each purchase is assigned a four-digit category code that describes the type of purchase that was made. There are separate codes for grocery stores, fast food restaurants, doctors, bars, bail and bond payments, and dating and escort services. Taken together, these codes allow credit card companies to learn a great deal about each of its customers at a glance.

Credit card companies use these data for multiple purposes. First, they use them to target future promotions for additional products more accurately. Users that purchase airline tickets might receive promotions for frequent flyer miles, for example. The data help card issuers guard against credit card fraud by identifying purchases that appear unusual compared to a cardholder’s normal purchase history. The card companies also flag users who frequently charge more than their credit limit or demonstrate erratic spending habits. Lastly, these records are used by law enforcement agencies to track down criminals.

Credit card holders with debt, the ones who never fully pay off their balances entirely and thus have to pay monthly interest charges and other fees, have been a major source of profit for credit card issuers. However, the recent financial crisis and credit crunch have turned them into a mounting liability because so many people are defaulting on their payments and even filing for bankruptcy. So the credit card companies are now focusing on mining credit card data to predict cardholders posing the highest risk.

Using complex mathematical formulas and insights from behavioral science, these companies are developing more fine-grained profiles to help them get inside the heads of their customers. The data provide new insights about the relationship of certain types of purchases to a customer’s ability or inability to pay off credit card balances and other debt. The card-issuing companies now use this information to deny credit card applications or shrink the amount of credit available to high-risk customers.

These companies are generalizing based on certain types of purchases that may unfairly characterize responsible cardholders as risky. Purchases of second-hand clothing, bail bond services, massages, or gambling might cause card issuers to identify you as a risk, even if you maintain your balance responsibly from month to month. Other behaviors that raise suspicion: using your credit card to get your tires re-treaded, to pay for drinks at a bar, or to obtain a cash advance. In light of the sub-prime mortgage crisis, credit card companies have even begun to consider individuals from Florida, Nevada, California, and other states hardest hit by foreclosures to be risks simply by virtue of their state of residence.

The same fine-grained profiling also identifies the most reliable credit-worthy cardholders. For example, the credit card companies found that people who buy high-quality bird seed and snow rakes to sweep snow off of their roofs are very likely to pay their debts and never miss payments.

Credit card companies are even using their detailed knowledge of cardholder behavior to establish personal connections with the clients that owe them money and convince them to pay off their balances. One 49-year old woman from Missouri in the throes of a divorce owed $40,000 to various credit card companies at one point, including $28,000 to Bank of America. A Bank of America customer service representative studied the woman’s profile and spoke to her numerous times, even pointing out one instance where she was erroneously charged twice. The representative forged a bond with the cardholder, and as a result she paid back the entire $28,000 she owed, (even though she failed to repay much of the remainder that she owed to other credit card companies.)

This example illustrates something the credit card companies now know: when cardholders feel more comfortable with companies, as a result of a good relationship with a customer service rep or for any other reason, they’re more likely to pay their debts.

It’s common practice for credit card companies to use this information to get a better idea of consumer trends, but should they be able to use it to preemptively deny credit or adjust terms of agreements? Law enforcement is not permitted to profile individuals, but it appears that credit card companies are doing just that.

In June 2008, the FTC filed a lawsuit against CompuCredit, a sub-prime credit card marketer. CompuCredit had been using a sophisticated behavioral scoring model to identify customers who they considered to have risky purchasing behaviors and
lower these customers’ credit limits. CompuCredit settled the suit by crediting $114 million to the accounts of these supposedly risky customers and paid a $2.5 million penalty.

Congress is investigating the extent to which credit card companies use profiling to determine interest rates and policies for their cardholders. The new credit card reform law signed by President Barack Obama in May 2009 requires federal regulators to investigate this. Regulators must also determine whether minority cardholders were adversely profiled by these criteria. The new legislation will also bar card companies from raising interest rates at any time and for any reason on their customers.

If Congress prevails, you’re likely to receive far fewer credit card solicitations in the mail and fewer offers of interest-free cards with rates that skyrocket after an initial grace period. You’ll also see fewer policies intended to trick or deceive customers, like cash-back rewards for unpaid balances, which actually encourage cardholders not to pay what they owe. But the credit card companies say that to compensate for these changes, they’ll need to raise rates across the board, even for good customers.


### Case Study Questions

1. What competitive strategy are the credit card companies pursuing? How do information systems support that strategy?

2. What are the business benefits of analyzing customer purchase data and constructing behavioral profiles?

3. Are these practices by credit card companies ethical? Are they an invasion of privacy? Why or why not?

### MIS in Action

1. If you have a credit card, make a detailed list of all of your purchases for the past six months. Then write a paragraph describing what credit card companies learned about your interests and behavior from these purchases.

2. How would this information benefit the credit card companies? What other companies would be interested?

### Table 3.2

Table 3.2 summarizes the competitive strategies we have just described. Some companies focus on one of these strategies, but you will often see companies pursuing several of them simultaneously. For example, Dell Computer has tried to emphasize low cost as well as the ability to customize its personal computers.

Implementing any of these strategies is no simple matter. But it is possible, as evidenced by the many firms that obviously dominate their markets and that have used information systems to enable their strategies. As shown by the cases throughout this book, successfully using information systems to achieve a competitive advantage requires a precise coordination of technology, organizations, and people. Indeed, as many have noted with regard to Wal-Mart, Dell, and Amazon, the ability to successfully implement information systems is not equally distributed, and some firms are much better at it than others. It is not simply a matter of purchasing computers and plugging them into the wall socket. We discuss these topics throughout the book.
The Internet has nearly destroyed some industries and has severely threatened more. The Internet has also created entirely new markets and formed the basis for thousands of new businesses. The first wave of e-commerce transformed the business world of books, music, and air travel. In the second wave, eight new industries are facing a similar transformation scenario: telephone services, movies, television, jewelry, real estate, hotels, bill payments, and software. The breadth of e-commerce offerings grows, especially in travel, information clearinghouses, entertainment, retail apparel, appliances, and home furnishings.

For instance, the printed encyclopedia industry and the travel agency industry have been nearly decimated by the availability of substitutes over the Internet. Likewise, the Internet has had a significant impact on the retail, music, book, brokerage, and newspaper industries. At the same time, the Internet has enabled new products and services, new business models, and new industries to spring up every day from eBay and Amazon, to iTunes and Google. In this sense, the Internet is “transforming” entire industries, forcing firms to change how they do business.

Because of the Internet, the traditional competitive forces are still at work, but competitive rivalry has become much more intense (Porter, 2001). Internet technology is based on universal standards that any company can use, making it easy for rivals to compete on price alone and for new competitors to enter the market. Because information is available to everyone, the Internet raises the bargaining power of customers, who can quickly find the lowest-cost provider on the Web. Profits have been dampened. Some industries, such as the travel industry and the financial services industry, have been more impacted than others.

Table 3.3 summarizes some of the potentially negative impacts of the Internet on business firms identified by Porter.

However, contrary to Porter’s somewhat negative assessment, the Internet also creates new opportunities for building brands and building very large and loyal customer bases that are willing to pay a premium for the brand, for example, Yahoo, eBay, Blue Nile, RedEnvelope, Amazon, and many others. In addition, as with all IT-enabled business initiatives, some firms are far better at using the Internet than other firms are, which creates new strategic opportunities for the successful firms.

### THE BUSINESS VALUE CHAIN MODEL

Although the Porter model is very helpful for identifying competitive forces and suggesting generic strategies, it is not very specific about what exactly to do, and it does not provide a
methodology to follow for achieving competitive advantages. If your goal is to achieve operational excellence, where do you start? Here’s where the business value chain model is helpful.

The value chain model highlights specific activities in the business where competitive strategies can best be applied (Porter, 1985) and where information systems are most likely to have a strategic impact. This model identifies specific, critical leverage points where a firm can use information technology most effectively to enhance its competitive position. The value chain model views the firm as a series or chain of basic activities that add a margin of value to a firm’s products or services. These activities can be categorized as either primary activities or support activities (see Figure 3-2).

**Primary activities** are most directly related to the production and distribution of the firm’s products and services, which create value for the customer. Primary activities include inbound logistics, operations, outbound logistics, sales and marketing, and service. Inbound logistics includes receiving and storing materials for distribution to production. Operations transforms inputs into finished products. Outbound logistics entails storing and distributing finished products. Sales and marketing includes promoting and selling the firm’s products. The service activity includes maintenance and repair of the firm’s goods and services.

**Support activities** make the delivery of the primary activities possible and consist of organization infrastructure (administration and management), human resources (employee recruiting, hiring, and training), technology (improving products and the production process), and procurement (purchasing input).

Now you can ask at each stage of the value chain, “How can we use information systems to improve operational efficiency and improve customer and supplier intimacy?” This will force you to critically examine how you perform value-adding activities at each stage and how the business processes might be improved. For example, value chain analysis would indicate that Verizon, described in the chapter-opening case, should improve its processes for product development and quality control. You can also begin to ask how information systems can be used to improve the relationship with customers and with suppliers who lie outside the firm value chain but belong to the firm’s extended value chain where they are absolutely critical to your success. Here, supply

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**TABLE 3.3**

<table>
<thead>
<tr>
<th>Competitive Force</th>
<th>Impact of the Internet</th>
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<tr>
<td>Substitute products or services</td>
<td>Enables new substitutes to emerge with new approaches to meeting needs and performing functions</td>
</tr>
<tr>
<td>Customers’ bargaining power</td>
<td>Shifts bargaining power to customers due to the availability of global price and product information</td>
</tr>
<tr>
<td>Suppliers’ bargaining power</td>
<td>Tends to raise bargaining power over suppliers in procuring products and services; however, suppliers can benefit from reduced barriers to entry and from the elimination of distributors and other intermediaries standing between them and their users</td>
</tr>
<tr>
<td>Threat of new entrants</td>
<td>Reduces barriers to entry, such as the need for a sales force, access to channels, and physical assets; it provides a technology for driving business processes that makes other things easier to do</td>
</tr>
<tr>
<td>Positioning and rivalry among existing competitors</td>
<td>Widens the geographic market, increasing the number of competitors and reducing differences among competitors; makes it more difficult to sustain operational advantages; puts pressure to compete on price</td>
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</table>
chain management systems that coordinate the flow of resources into your firm, and customer relationship management systems that coordinate your sales and support employees with customers, are two of the most common system applications that result from a business value chain analysis. We discuss these enterprise applications in detail later in Chapter 8.

Using the business value chain model will also cause you to consider benchmarking your business processes against your competitors or others in related industries, and identifying industry best practices. Benchmarking involves comparing the efficiency and effectiveness of your business processes against strict standards and then measuring performance against those standards. Industry best practices are usually identified by consulting companies, research organizations, government agencies, and industry associations as the most successful solutions or problem-solving methods for consistently and effectively achieving a business objective.

Once you have analyzed the various stages in the value chain at your business, you can come up with candidate applications of information systems. Then, once you have a list of candidate applications, you can decide which to develop first. By making improvements in your own business value chain that your competitors might miss, you can achieve competitive advantage by attaining operational excellence, lowering costs, improving profit margins, and forging a closer relationship with customers and suppliers. If your competitors are making similar improvements, then at least you will not be at a competitive disadvantage—the worst of all cases!

**Extending the Value Chain: The Value Web**

Figure 3-2 shows that a firm’s value chain is linked to the value chains of its suppliers, distributors, and customers. After all, the performance of most firms depends not only on what goes on inside a firm but also on how well the firm coordinates with direct and indirect suppliers, delivery firms (logistics partners, such as FedEx or UPS), and, of course, customers.
How can information systems be used to achieve strategic advantage at the industry level? By working with other firms, industry participants can use information technology to develop industry-wide standards for exchanging information or business transactions electronically, which force all market participants to subscribe to similar standards. Such efforts increase efficiency, making product substitution less likely and perhaps raising entry costs—thus discouraging new entrants. Also, industry members can build industry-wide, IT-supported consortia, symposia, and communications networks to coordinate activities concerning government agencies, foreign competition, and competing industries.

Looking at the industry value chain encourages you to think about how to use information systems to link up more efficiently with your suppliers, strategic partners, and customers. Strategic advantage derives from your ability to relate your value chain to the value chains of other partners in the process. For instance, if you are Amazon.com, you would want to build systems that

- Make it easy for suppliers to display goods and open stores on the Amazon site
- Make it easy for customers to pay for goods
- Develop systems that coordinate the shipment of goods to customers
- Develop shipment tracking systems for customers

In fact, this is exactly what Amazon has done to make it one of the Web’s most satisfying online retail shopping sites.

Internet technology has made it possible to create highly synchronized industry value chains called value webs. A value web is a collection of independent firms that use information technology to coordinate their value chains to produce a product or service for a market collectively. It is more customer driven and operates in a less linear fashion than the traditional value chain.

Figure 3-3 shows that this value web synchronizes the business processes of customers, suppliers, and trading partners among different companies in an industry or in related industries. These value webs are flexible and adaptive to changes in supply and demand. Relationships can be bundled or unbundled in response to changing market conditions. Firms will accelerate time to market and to customers by optimizing their value web relationships to make quick decisions on who can deliver the required products or services at the right price and location.

Figure 3-3
The Value Web
The value web is a networked system that can synchronize the value chains of business partners within an industry to respond rapidly to changes in supply and demand.
SYNERGIES, CORE COMPETENCIES, AND NETWORK-BASED STRATEGIES

A large corporation is typically a collection of businesses. Often, the firm is organized financially as a collection of strategic business units, and the returns to the firm are directly tied to the performance of all the strategic business units. For instance, General Electric—one of the largest industrial firms in the world—is a collection of aerospace, heavy manufacturing, electrical appliance, medical imaging, electronics, and financial services firms called business units. Information systems can improve the overall performance of these business units by promoting communication, synergies, and core competencies among the units.

Synergies

The idea of synergies is that when the output of some units can be used as inputs to other units, or two organizations can pool markets and expertise, these relationships lower costs and generate profits. Recent bank and financial firm mergers, such as the merger of Bank of America and Countrywide Financial and JPMorgan Chase and Washington Mutual occurred precisely for this purpose.

One use of information technology in these synergy situations is to tie together the operations of disparate business units so that they can act as a whole. For example, acquiring Countrywide Financial enabled Bank of America to expand its mortgage lending business and acquire a large pool of new customers that might be interested in its credit cards, consumer banking, and other financial products. Information systems would help the merged companies consolidate operations, lower retailing costs, and increase cross-marketing of financial products.

Enhancing Core Competencies

Yet another way to use information systems for competitive advantage is to think about ways that systems can enhance core competencies. The argument is that the performance of all business units can increase insofar as these business units develop, or create, a central core of competencies. A core competency is an activity for which a firm is a world-class leader. Core competencies may involve being the world’s best miniature parts designer, the best package delivery service, or the best thin-film manufacturer. In general, a core competency relies on knowledge that is gained over many years of experience and a first-class research organization, or simply key people who follow the literature and stay abreast of new external knowledge.

Any information system that encourages the sharing of knowledge across business units enhances competency. Such systems might encourage or enhance existing competencies and help employees become aware of new external knowledge; such systems might also help a business leverage existing competencies to related markets.

For example, Procter & Gamble (P&G), a world leader in brand management and consumer product innovation, uses a series of systems to enhance its core competencies. P&G uses an intranet called InnovationNet to help people working on similar problems share ideas and expertise. The system connects those working in research and development (R&D), engineering, purchasing, marketing, legal affairs, and business information systems around the world, using a portal to provide browser-based access to documents, reports, charts, videos, and other data from various sources. InnovationNet added a directory of subject matter experts who can be tapped to give advice or collaborate on problem solving and product development, and created links to outside research scientists and 150 entrepreneurs who are searching for new, innovative products worldwide.

Network-Based Strategies

Internet and networking technology have spawned strategies that take advantage of firms’ abilities to create networks or network with each other. Network-based strategies include the use of network economics and a virtual company model.
Business models based on a network may help firms strategically by taking advantage of network economics. In traditional economics—the economics of factories and agriculture—production experiences diminishing returns. The more any given resource is applied to production, the lower the marginal gain in output, until a point is reached where the additional inputs produce no additional outputs. This is the law of diminishing returns, and it is the foundation for most of modern economics.

In some situations, the law of diminishing returns does not work. For instance, in a network, the marginal costs of adding another participant are about zero, whereas the marginal gain is much larger. The larger the number of subscribers in a telephone system or the Internet, the greater the value to all participants because each user can interact with more people. It is no more expensive to operate a television station with 1,000 subscribers than with 10 million subscribers. The value of a community of people grows with size, whereas the cost of adding new members is inconsequential.

From this network economics perspective, information technology can be strategically useful. Internet sites can be used by firms to build communities of users—like-minded customers who want to share their experiences. This can build customer loyalty and enjoyment, and build unique ties to customers. EBay, the giant online auction site, and iVillage, an online community for women, are examples. Both businesses are based on networks of millions of users, and both companies have used the Web and Internet communication tools to build communities. The more people offering products on eBay, the more valuable the eBay site is to everyone because more products are listed, and more competition among suppliers lowers prices. Network economics also provide strategic benefits to commercial software vendors. The value of their software and complementary software products increases as more people use them, and there is a larger installed base to justify continued use of the product and vendor support.

Another network-based strategy uses the model of a virtual company to create a competitive business. A virtual company, also known as a virtual organization, uses networks to link people, assets, and ideas, enabling it to ally with other companies to create and distribute products and services without being limited by traditional organizational boundaries or physical locations. One company can use the capabilities of another company without being physically tied to that company. The virtual company model is useful when a company finds it cheaper to acquire products, services, or capabilities from an external vendor or when it needs to move quickly to exploit new market opportunities and lacks the time and resources to respond on its own.

Fashion companies, such as GUESS, Ann Taylor, Levi Strauss, and Reebok, enlist Hong Kong-based Li & Fung to manage production and shipment of their garments. Li & Fung handles product development, raw material sourcing, production planning, quality assurance, and shipping. Li & Fung does not own any fabric, factories, or machines, outsourcing all of its work to a network of more than 7,500 suppliers in 37 countries all over the world. Customers place orders to Li & Fung over its private extranet. Li & Fung then sends instructions to appropriate raw material suppliers and factories where the clothing is produced. The Li & Fung extranet tracks the entire production process for each order. Working as a virtual company keeps Li & Fung flexible and adaptable so that it can design and produce the products ordered by its clients in short order to keep pace with rapidly changing fashion trends.

**DISRUPTIVE TECHNOLOGIES: RIDING THE WAVE**

Sometimes a new technology comes along like a tsunami and destroys everything in its path. Some firms are able to create these tsunamis and ride the wave to profits; others learn quickly and are able to swim with the current; still others are obliterated because their products, services, and business models are obsolete. They may be very efficient at doing what no longer needs to be done! There are also cases where no firms benefit, and all the gains go to consumers (firms fail to capture any profits). Business history is filled with examples of disruptive technologies. Table 3.4 describes just a few disruptive technologies from the past and some from the likely near-term future.
## Table 3.4
Disruptive Technologies: Winners and Losers

<table>
<thead>
<tr>
<th>Technology</th>
<th>Description</th>
<th>Winners and Losers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transistor (1947)</td>
<td>Low-power, compact, semiconductor switch that destroyed the vacuum tube industry</td>
<td>Transistor manufacturing firms win (Texas Instruments), while vacuum tube manufacturers decline (RCA, Sylvania)</td>
</tr>
<tr>
<td>Microprocessor chips (1971)</td>
<td>Thousands and eventually millions of transistors on a silicon chip</td>
<td>Microprocessor firms win (Intel, Texas Instruments), while transistor firms (GE) decline</td>
</tr>
<tr>
<td>Personal computers (1975)</td>
<td>Small, inexpensive, but fully functional desktop computers</td>
<td>PC manufacturers (HP, Apple, IBM) and chip manufacturers (Intel) prosper, while mainframe (IBM) and minicomputer (DEC) firms lose</td>
</tr>
<tr>
<td>PC word processing software (1979)</td>
<td>Inexpensive, limited but functional text editing and formatting for personal computers</td>
<td>PC and software manufacturers (Microsoft, HP, Apple) prosper, while the typewriter industry disappears</td>
</tr>
<tr>
<td>World Wide Web (1989)</td>
<td>A global database of digital files and “pages” instantly available</td>
<td>Owners of online content and news benefit, while traditional publishers (newspapers, magazines, broadcast television) lose</td>
</tr>
<tr>
<td>Internet music (1998) services</td>
<td>Repositories of downloadable music on the Web with acceptable fidelity</td>
<td>Owners of online music collections (MP3.com, iTunes), telecommunications providers who own Internet backbone (ATT, Verizon), and local Internet service providers win, while record label firms and music retailers lose (Tower Records)</td>
</tr>
<tr>
<td>PageRank algorithm</td>
<td>A method for ranking Web pages in terms of their popularity to supplement Web search by key terms</td>
<td>Google wins (it owns the patent), while traditional key word search engines (Alta Vista) lose</td>
</tr>
<tr>
<td>Online video search algorithms</td>
<td>Using a family of techniques from speech recognition to text classification in order to make large video collections easily searchable</td>
<td>Online video search companies (Blinkx) win, while traditional search engines at Yahoo!, Amazon, and even Google are challenged</td>
</tr>
<tr>
<td>Software as Web service</td>
<td>Using the Internet to provide remote access to online software</td>
<td>Online software services companies (Salesforce.com) win, while traditional “boxed” software companies (Microsoft, SAP, Oracle) lose</td>
</tr>
<tr>
<td>Online print services</td>
<td>Using the Internet to provide remote access to digital printers and online designers</td>
<td>Online print process firms gain (digitalpressonline.com), while traditional printers lose (RR Donnelly)</td>
</tr>
</tbody>
</table>
Disruptive technologies are tricky. Firms that invent disruptive technologies as “first movers” do not always benefit if they lack the resources to really exploit the technology or fail to see the opportunity. The MITS Altair 8800 is widely considered the first PC, but its inventors did not take advantage of their first-mover status. Second movers, so-called “fast followers” such as IBM and Microsoft, reaped the rewards. ATMs revolutionized retail banking, but the inventor, Citibank, was copied by other banks, and ultimately all banks used ATMs with the benefits going mostly to the consumers. Google was not a first mover in search but an innovative follower that was able to patent a powerful new search algorithm called PageRank. So far it has been able to hold onto its lead while most other search engines have faded down to small market shares.

The Interactive Session on Organizations explores some of these issues as it examines the Internet’s disruptive impact on the television industry. As you read this case, try to identify the problem the television industry is facing, the alternative solutions available to the cable networks and services, and the people, organization, and technology issues that have to be addressed when developing the solution.

3.2 Competing on a Global Scale

Look closely at your jeans or sneakers. Even if they have a U.S. label, they were probably designed in California and stitched together in Hong Kong or Guatemala using materials from China or India. Call up Microsoft Help, or Verizon Help, and chances are good you will be speaking to a customer service representative located in India.

Consider the path to market for a Hewlett-Packard (HP) laptop computer, which is illustrated in Figure 3-4. The idea for the product and initial design came from HP’s Laptop Design Team in the United States. HP headquarters in Houston approved the concept. Graphics processors were designed in Canada and manufactured in Taiwan. Taiwan and South Korea provided the liquid-crystal display screens and many of the memory chips. The laptop’s hard disk drive came from Japan. Sources in China, Japan, Singapore, South Korea, and the United States supplied other components. Laptop assembly took place in China. Contractors in Taiwan did the machine’s engineering design and collaborated with the Chinese manufacturers.

Firms pursuing a global strategy benefit from economies of scale and resource cost reduction (usually wage cost reduction). HP spread design, sourcing, and production for its laptops over multiple countries overseas to reduce logistics, tariffs, and labor costs. Digital content firms that produce Hollywood movies are able to sell millions more copies of DVDs of popular films by using foreign markets.

Figure 3-4
An HP Laptop’s Path to Market
Hewlett-Packard and other electronics companies assign distribution and production of their products to a number of different countries.
The Internet has transformed the music industry. Sales of CDs in retail music stores have been steadily declining while sales of songs downloaded through the Internet to iPods and other portable music players are skyrocketing. Moreover, the music industry is still contending with millions of people illegally downloading songs for free. Will the television industry have a similar fate?

Widespread use of high-speed Internet access, powerful PCs with high-resolution display screens, iPhones and other mobile handhelds, and leading-edge file-sharing services have made downloading of video content from movies and television shows faster and easier than ever. Free and often illegal downloads of some TV shows are abundant. But the Internet is also providing new ways for television studios to distribute and sell their content, and they are trying to take advantage of that opportunity.

YouTube, which started up in February 2005, quickly became the most popular video-sharing Web site in the world. Even though YouTube’s original mission was to provide an outlet for amateur filmmakers, clips of copyrighted Hollywood movies and television shows soon proliferated on the YouTube Web site. It is difficult to gauge how much proprietary content from TV shows winds up on YouTube without the studios’ permission. Viacom claimed in a 2008 lawsuit that over 150,000 unauthorized clips of its copyrighted television programs had appeared on YouTube.

YouTube tries to discourage its users from posting illegal clips by limiting the length of videos to 10 minutes each and by removing videos when requested by their copyright owner. YouTube has also implemented Video ID filtering and digital fingerprinting technology that allows copyright owners to compare the digital fingerprints of their videos with material on YouTube and then flag infringing material. Using this technology, it is able to filter many unauthorized videos before they appear on the YouTube Web site. If infringing videos do make it online, they can be tracked using Video ID.

The television industry is also striking back by embracing the Internet as another delivery system for its content. Television broadcast networks such as NBC Universal, Fox, and CNN have put television shows on their own Web sites. In March 2007, NBC Universal, News Corp (the owner of Fox Broadcasting), and ABC Inc. set up Hulu.com, a Web site offering streaming video of television shows and movies from NBC, Fox, ABC, Comedy Central, PBS, USA Network, Bravo, FX, Speed, Sundance, Oxygen, Onion News Network, and other networks. Hulu also syndicates its hosting to other sites, including AOL, MSN, Facebook, MySpace, Yahoo, and Fancast.com, and allows users to embed Hulu clips in their Web site. The site is free to viewers and supported by advertising commercials. CBS’s TV.com and Joost are other popular Web television sites. Content from all of these sites is viewable over iPhones.

What if there are so many TV shows available for free on the Web that “Hulu households” cancel their cable subscriptions to watch free TV online? Cable service operators have begun worrying, especially when the cable networks posted some of their programming on the Web. In July 2009, cable TV operator Comcast Corporation began a trial program to bring some Time Warner network shows, including TBS’s My Boys and TNT’s The Closer to the Web. Other cable networks, including A&E and the History Channel, participated in the Comcast test.

By making more television shows available online, but only for cable subscribers, the cable networks hope to preserve and possibly expand the cable TV subscription model in an increasingly digital world. “The vision is you can watch your favorite network’s programming on any screen,” noted Time Warner Chief Executive Jeff Bewkes. The system used in the Comcast–Time Warner trial is interoperable with cable service providers’ systems to authenticate subscribers.

The same technology might also allow cable firms to provide demographic data for more targeted ads and perhaps more sophisticated advertising down the road. Cable programmers also stand to earn more advertising revenue because viewers can’t skip ads on TV programs streamed from the Web as they do with traditional TV. Web versions of some television shows in the Comcast–Time Warner trial program, including TNT’s The Closer, will carry the same number of ads as seen on traditional TV, which amounts to more than four times the ad load on many Internet sites, including Hulu. Many hour-long shows available online are able to accommodate five or six commercial breaks, each with a single 30-second ad. NBC Universal Digital Entertainment has even streamed episodes of series, including The Office, with two ads per break.

According to research firm eMarketer, these Web-video ads will generate $1.5 billion in ad revenue in 2010 and $2.1 billion in 2011.

Will all of this work out for the cable industry? It’s still too early to tell. Although the cable programming companies want an online presence to extend their brands, they don’t want to cannibalize TV subscriptions or viewership ratings that generate advertising
revenue. Customers accustomed to YouTube and Hulu may rebel if too many ads are shown online. According to Oppenheimer analyst Tim Horan, cable companies will start feeling the impact of customers canceling subscriptions to view online video and TV by 2012. Edward Woo, an Internet and digital media analyst for Wedbush Morgan Securities in Los Angeles predicts that in a few years, “it should get extremely interesting.” Hulu and other Web TV and video sites will have much deeper content, and the technology to deliver that content to home viewers will be more advanced.


CASE STUDY QUESTIONS

1. What competitive forces have challenged the television industry? What problems have these forces created?
2. Describe the impact of disruptive technology on the companies discussed in this case.
3. How have the cable programming and delivery companies responded to the Internet?
4. What people, organization, and technology issues must be addressed to solve the cable industry’s problems?
5. Have the cable companies found a successful new business model to compete with the Internet? Why or why not?

Go to Hulu.com and explore the site. Note all of the TV shows available on the site and pick out three or four of interest to you. View an episode of each of these shows online, then answer the following questions:

1. Did you see any advertisements attached to the programming? What kinds of ads did you see? How were they presented? Do you feel this method of advertising is effective? Why or why not?
2. If more television programs were available online, would you cancel your cable subscription? Why or why not?

THE INTERNET AND GLOBALIZATION

Up until the mid-1990s, competing on a global scale was dominated by huge multinational firms, such as General Electric, General Motors, Toyota, and IBM. These large firms could afford huge investments in factories, warehouses, and distribution centers in foreign countries and proprietary networks and systems that could operate on a global scale. The emergence of the Internet into a full-blown international communications system has drastically reduced the costs of operating on a global scale, deepening the possibilities for large companies but simultaneously creating many opportunities for small and medium-sized firms.

The global Internet, along with internal information systems, puts manufacturing firms in nearly instant contact with their suppliers; Internet telephony permits millions of service calls to U.S. companies to be answered in India and Jamaica, just as easily and cheaply as if the help desk were in New Jersey or California. Likewise, the Internet makes it possible to move very large computer files with hundreds of graphics, or complex industrial designs, across the globe in seconds.

Small and medium-sized firms have created an entirely new class of “micromultinational firms.” For instance, CEO Brad Oberwager runs Sundia, a company which sells watermelon juice and fruit in the United States and Europe, out of his San Francisco home. Oberwager has employees in other parts of the United States as well as in India and the Philippines, and they use Web-based information systems to manage and coordinate. A Sundia employee in the Philippines is able to take orders from a Boston grocery store for...
GLOBAL BUSINESS AND SYSTEM STRATEGIES

There are four main ways of organizing businesses internationally: domestic exporter, multinational, franchiser, and transnational, each with different patterns of organizational structure or governance. In each type of global business organization, business functions may be centralized (in the home country), decentralized (to local foreign units), and coordinated (all units participate as equals).

The **domestic exporter** strategy is characterized by heavy centralization of corporate activities in the home country of origin. Production, finance/accounting, sales/marketing, human resources, and strategic management are set up to optimize resources in the home country. International sales are sometimes dispersed using agency agreements or subsidiaries, but foreign marketing is still totally reliant on the domestic home base for marketing themes and strategies. Caterpillar Corporation and other heavy capital equipment manufacturers fall into this category of firm.

A **multinational** strategy concentrates financial management and control out of a central home base while decentralizing production, sales, and marketing operations to units in other countries. The products and services on sale in different countries are adapted to suit local market conditions. The organization becomes a far-flung confederation of production and marketing facilities in different countries. Many financial service firms, along with a host of manufacturers, such as Ford Motor Co. and Intel Corporation fit this pattern.

Franchisers have the product created, designed, financed, and initially produced in the home country but rely heavily on foreign personnel for further production, marketing, and human resources. Food franchisers, such as McDonald’s and Starbucks, fit this pattern. McDonald’s created a new form of fast-food chain in the United States and continues to rely largely on the United States for inspiration of new products, strategic management, and financing. Nevertheless, local production of some items, local marketing, and local recruitment of personnel are required.

Transnational firms have no single national headquarters but instead have many regional headquarters and perhaps a world headquarters. In a **transnational** strategy, nearly all the value-adding activities are managed from a global perspective without reference to national borders, optimizing sources of supply and demand wherever they appear and taking advantage of any local competitive advantages. There is a strong central management core of decision making but considerable dispersal of power and financial muscle throughout the global divisions. Few companies have actually attained transnational status, but Citigroup, Sony, and Nestlé are attempting this transition.

Nestlé, the largest food and beverage company in the world, is one of the world’s most globalized companies, with nearly 250,000 employees at 500 facilities in 200 countries. Nestlé launched a $2.4 billion initiative to adopt a single set of business processes and systems for procurement, distribution, and sales management using mySAP enterprise software. All of Nestlé’s worldwide business units use the same processes and systems for making sales commitments, establishing factory production schedules, billing customers, compiling management reports, and reporting financial results. Nestlé has learned how to operate as a single unit on a global scale.

GLOBAL SYSTEM CONFIGURATION

Figure 3-5 depicts four types of systems configurations for global business organizations. **Centralized systems** are those in which systems development and operation occur totally at the domestic home base. **Duplicated systems** are those in which development occurs at the
home base but operations are handed over to autonomous units in foreign locations. Decentralized systems are those in which each foreign unit designs its own unique solutions and systems. Networked systems are those in which systems development and operations occur in an integrated and coordinated fashion across all units.

As can be seen in Figure 3-5, domestic exporters tend to have highly centralized systems in which a single domestic systems development staff develops worldwide applications. Multinationals allow foreign units to devise their own systems solutions based on local needs with few, if any, applications in common with headquarters (the exceptions being financial reporting and some telecommunications applications). Franchisers typically develop a single system, usually at the home base, and then replicate it around the world. Each unit, no matter where it is located, has identical applications. Firms such as Nestle organized along transnational lines use networked systems that span multiple countries using powerful telecommunications networks and a shared management culture that crosses cultural barriers.

3.3 Competing on Quality and Design

Quality has developed from a business buzzword into a very serious goal for many companies. Quality is a form of differentiation. Companies with reputations for high quality, such as Lexus or Nordstrom, are able to charge premium prices for their products and services. Information systems have a major contribution to make in this drive for quality. In the services industries in particular, quality strategies are generally enabled by superior information systems and services.

WHAT IS QUALITY?

Quality can be defined from both producer and customer perspectives. From the perspective of the producer, quality signifies conformance to specifications or the absence of variation from those specifications. The specifications for a telephone might include one that states the strength of the phone should be such that it will not be dented or otherwise damaged by a drop from a four-foot height onto a wooden floor. A simple test will allow this specification to be measured.

A customer definition of quality is much broader. First, customers are concerned with the quality of the physical product—it’s durability, safety, ease of use, and installation. Second, customers are concerned with the quality of service, by which they mean the accuracy and truthfulness of advertising, responsiveness to warranties, and ongoing product support. Finally, customer concepts of quality include psychological aspects: the company’s knowledge of its products, the courtesy and sensitivity of sales and support staff, and the reputation of the product.
Today, as the quality movement in business progresses, the definition of quality is increasingly from the perspective of the customer. Customers are concerned with getting value for their dollar and product fitness, performance, durability, and support.

Many companies have embraced the concept of total quality management (TQM). Total quality management makes quality the responsibility of all people and functions within an organization. TQM holds that the achievement of quality control is an end in itself. Everyone is expected to contribute to the overall improvement of quality—the engineer who avoids design errors, the production worker who spots defects, the sales representative who presents the product properly to potential customers, and even the secretary who avoids typing mistakes. TQM derives from quality management concepts developed by American quality experts, such as W. Edwards Deming and Joseph Juran, but the Japanese popularized it.

Another quality concept that is widely implemented today is six sigma, which Amazon.com used to reduce errors in order fulfillment. Six sigma is a specific measure of quality, representing 3.4 defects per million opportunities. Most companies cannot achieve this level of quality but use six sigma as a goal to implement a set of methodologies and techniques for improving quality and reducing costs. Studies have repeatedly shown that the earlier in the business cycle a problem is eliminated, the less it costs the company. Thus, quality improvements not only raise the level of product and service quality but they can also lower costs.

HOW INFORMATION SYSTEMS IMPROVE QUALITY

Let’s examine some of the ways companies face the challenge of improving quality to see how information systems can be part of the process.

Reduce Cycle Time and Simplify the Production Process

Studies have shown that probably the best single way to reduce quality problems is to reduce cycle time, which refers to the total elapsed time from the beginning of a process to its end. Shorter cycle times mean that problems are caught earlier in the process, often before the production of a defective product is completed, saving some of the hidden costs of producing it. Finally, finding ways to reduce cycle time often means finding ways to simplify production steps. The fewer steps in a process, the less time and opportunity for an error to occur. Information systems help eliminate steps in a process and critical time delays.

800-Flowers, a multimillion-dollar company selling flowers by telephone or over the Web, used to be a much smaller company that had difficulty retaining its customers. It had poor service, inconsistent quality, and a cumbersome manual order-taking process. Telephone representatives had to write each order, obtain credit card approval, determine which participating florist was closest to the delivery location, select a floral arrangement, and forward the order to the florist. Each step in the manual process increased the chance of human error, and the whole process took at least a half hour. Owners Jim and Chris McCann installed a new information system that downloads orders taken in telecenters or over the Web to a central computer and electronically transmits them to local florists. Orders are more accurate and arrive at the florist within two minutes.

Benchmark

Companies achieve quality by using benchmarking to set strict standards for products, services, and other activities, and then measuring performance against those standards. Companies may use external industry standards, standards set by other companies, internally developed high standards, or some combination of the three. L.L.Bean, the Freeport, Maine, outdoor clothing company, used benchmarking to achieve an order-shipping accuracy of 99.9 percent. Its old batch order fulfillment system could not handle the surging volume and variety of items to be shipped. After studying German and Scandinavian companies with leading-edge order fulfillment operations, L.L.Bean carefully
redesigned its order fulfillment process and information systems so that orders could be processed as soon as they were received and shipped within 24 hours.

**Use Customer Demands to Improve Products and Services**

Improving customer service, making customer service the number one priority, will improve the quality of the product itself. Delta Airlines decided to focus on its customers, installing a customer care system at its airport gates. For each flight, the airplane seating chart, reservations, check-in information, and boarding data are linked in a central database. Airline personnel can track which passengers are on board regardless of where they checked in and use this information to help passengers reach their destination quickly, even if delays cause them to miss connecting flights.

**Improve Design Quality and Precision**

Computer-aided design (CAD) software has made a major contribution to quality improvements in many companies, from producers of automobiles to producers of razor blades. A computer-aided design (CAD) system automates the creation and revision of designs, using computers and sophisticated graphics software. The software enables users to create a digital model of a part, a product, or a structure, and make changes to the design on the computer without having to build physical prototypes.

Nikon, which develops and produces cameras, binoculars, and microscopes, uses a 3-D CAD system to reduce the amount of time to design its products while improving their quality. Nikon adopted Catia V5 CAD software from Dassault Systemes and IBM. To refine product design while designing a new camera, Nikon’s designers must repeat the process of design creation, evaluation, and modification a large number of times. For example, to move the location of the camera shutter by only .1 millimeter, Nikon’s designers will redesign the whole camera to adjust every other detail of design.

CATIA enables Nikon’s designers to generate curved surfaces easily and make modifications without creating a new physical mold for each design iteration. Before using these CAD tools, Nikon created product designs by carving out the shape from a block or adding a chunk to that shape. Now, with CATIA, Nikon designers are able to model 3-D shapes on the computer and check modifications immediately. Nikon still has to make design mock-ups, but the CAD software has enabled the company to improve their quality while reducing design lead time down to one-third (IBM, 2009).

**Improve Production Precision and Tighten Production Tolerances**

For many products, quality can be enhanced by making the production process more precise, thereby decreasing the amount of variation from one part to another. CAD software often produces design specifications for tooling and manufacturing processes, saving additional time and money while producing a manufacturing process with far fewer problems. The user of this software is able to design a more precise production system, a system with tighter tolerances, than could ever be done manually.

### 3.4 Competing on Business Processes

Technology alone is often not enough to make organizations more competitive, efficient, or quality-oriented. The organization itself needs to be changed to take advantage of the power of information technology. These changes may require minor adjustments in work activities, but, often, entire business processes will need to be redesigned. Business process management (BPM) addresses these needs.

**WHAT IS BUSINESS PROCESS MANAGEMENT?**

Business process management (BPM) is an approach to business which aims to continuously improve business processes. BPM uses a variety of tools and methodologies to
understand existing processes, design new processes, and optimize those processes. BPM is never concluded because continuous improvement requires continual change. Companies practicing business process management would need to go through the following steps:

1. **Identify processes for change:** One of the most important strategic decisions that a firm can make is not deciding how to use computers to improve business processes, but rather understanding what business processes need improvement. When systems are used to strengthen the wrong business model or business processes, the business can become more efficient at doing what it should not do. As a result, the firm becomes vulnerable to competitors who may have discovered the right business model. Considerable time and cost may also be spent improving business processes that have little impact on overall firm performance and revenue. Managers need to determine what business processes are the most important and how improving these processes will help business performance.

2. **Analyze existing processes:** Existing business processes should be modeled and documented, noting inputs, outputs, resources, and the sequence of activities. The process design team identifies redundant steps, paper-intensive tasks, bottlenecks, and other inefficiencies.

Figure 3-6 illustrates the “as-is” process for purchasing a book from a physical bookstore. Consider what happens when a customer visits a physical bookstore and searches its shelves for a book. If he or she finds the book, that person takes it to the checkout counter and pays for it via credit card, cash, or check. If the customer is unable to locate the book, he or she must ask a bookstore clerk to search the shelves or check the bookstore’s inventory records to see if it is in stock. If the clerk finds the book, the customer purchases it and leaves. If the book is not available locally, the clerk inquires about ordering it for the customer, from the bookstore’s warehouse or from the book’s distributor or publisher. Once the ordered book arrives at the bookstore, a bookstore employee telephones the customer with this information. The customer would have to go to the bookstore again to pick up the book and pay for it. If the bookstore is unable to order the book for the customer, the customer would have to try another bookstore. You can see that this process has many steps and might require the customer to make multiple trips to the bookstore.
3. Design the new process: Once the existing process is mapped and measured in terms of time and cost, the process design team will try to improve the process by designing a new one. A new streamlined “to-be” process will be documented and modeled for comparison with the old process.

Figure 3-7 illustrates how the book purchasing process can be redesigned by taking advantage of the Internet. The customer accesses an online bookstore over the Internet from his or her computer. He or she searches the bookstore’s online catalog for the book he or she wants. If the book is available, the customer orders the book online, supplying credit card and shipping address information, and the book is delivered to the customer’s home. If the online bookstore does not carry the book, the customer selects another online bookstore and searches for the book again. This process has far fewer steps than that for purchasing the book in a physical bookstore, requires much less effort on the part of the customer, and less sales staff for customer service. The new process is therefore much more efficient and time-saving.

The new process design needs to be justified by showing how much it reduces time and cost or enhances customer service and value. Management first measures the time and cost of the existing process as a baseline. In our example, the time required for purchasing a book from a physical bookstore might range from 15 minutes (if the customer immediately finds what he or she wants) to 30 minutes if the book is in stock but has to be located by sales staff. If the book has to be ordered from another source, the process might take one or two weeks and another trip to the bookstore for the customer. If the customer lives far away from the bookstore, the time to travel to the bookstore would have to be factored in. The bookstore will have to pay the costs for maintaining a physical store and keeping the book in stock, for sales staff on site, and for shipment costs if the book has to be obtained from another location.
The new process for purchasing a book online might only take several minutes, although the customer might have to wait several days or weeks to receive the book in the mail and will have to pay a small shipping charge. But the customer saves time and money by not having to travel to the bookstore or make additional visits to pick up the book. Book sellers’ costs are lower because they do not have to pay for a physical store location or for local inventory.

4. Implement the new process: Once the new process has been thoroughly modeled and analyzed, it must be translated into a new set of procedures and work rules. New information systems or enhancements to existing systems may have to be implemented to support the redesigned process. The new process and supporting systems are rolled out into the business organization. As the business starts using this process, problems are uncovered and addressed. Employees working with the process may recommend improvements.

5. Continuous measurement: Once a process has been implemented and optimized, it needs to be continually measured. Why? Processes may deteriorate over time as employees fall back on old methods, or they may lose their effectiveness if the business experiences other changes.

**Business Process Reengineering**

Many business process improvements are incremental and ongoing, but occasionally, more radical change is required. Our example of a physical bookstore redesigning the book purchasing process so that it can be carried out online is an example of this type of radical, far-reaching change. This radical rethinking and redesign of business processes is called **business process reengineering (BPR)**.

When properly implemented, BPR can lead to dramatic gains in productivity and efficiency, even changing the way the business is run. In some instances, it drives a “paradigm shift” that transforms the nature of the business itself. This actually happened in book retailing when Amazon challenged traditional physical bookstores with its online retail model. By radically rethinking the way a book can be purchased and sold, Amazon and other online bookstores have achieved remarkable efficiencies, cost reductions, and a whole new way of doing business.

BPM poses challenges. Executives report that the largest single barrier to successful business process change is organizational culture. Employees do not like unfamiliar routines, and often try to resist change. This is especially true of business process reengineering projects because the organizational changes are so far-reaching. Managing change is
neither simple nor intuitive, and companies committed to extensive process improvement need a good change management strategy (see Chapter 11).

**TOOLS FOR BUSINESS PROCESS MANAGEMENT**

Over 100 software firms provide tools for various aspects of BPM, including IBM, Oracle, and Tibco. These tools help businesses identify and document processes requiring improvement, create models of improved processes, capture and enforce business rules for performing processes, and integrate existing systems to support new or redesigned processes. BPM software tools also provide analytics for verifying that process performance has been improved and for measuring the impact of process changes on key business performance indicators.

Some BPM tools document and monitor business processes to help firms identify inefficiencies, using software to connect with each of the systems a company uses for a particular process to identify trouble spots. Canadian mutual fund company AIC used Sajus BPM monitoring software to check inconsistencies in its process for updating client accounts whenever they had a transaction. Sajus specializes in “goal-based” process management, which focuses on finding the causes of organizational problems through process monitoring before applying tools to address those problems.

Another category of tools automate some parts of a business process and enforce business rules so that employees perform that process more consistently and efficiently. For example, American National Insurance Company (ANCO), which offers life insurance, medical insurance, property casualty insurance, and investment services, used Pegasystems BPM workflow software to streamline customer service processes across four business groups. The software built rules to guide customer service representatives through a single view of a customer’s information that was maintained in multiple systems. By eliminating the need to juggle multiple applications simultaneously to handle customer and agent requests, the improved process increased customer service representative workload capacity by 192 percent.

A third category of tools helps businesses integrate their existing systems to support process improvements. They automatically manage processes across the business, extract data from various sources and databases, and generate transactions in multiple related systems. For example, the Star Alliance of 15 airlines, including United and Lufthansa, used BPM to create common processes shared by all of its members by integrating their existing systems. One project created a new service for frequent fliers on member airlines by consolidating 90 separate business processes across nine airlines and 27 legacy systems. The BPM software documented how each airline processed frequent flier information to help airline managers model a new business process that showed how to share data among the various systems.

**3.5 Hands-On MIS Projects**

The projects in this section give you hands-on experience identifying information systems to support a business strategy and to solve a customer retention problem, using a database to improve decision making about business strategy, and using Web tools to configure and price an automobile.

**MANAGEMENT DECISION PROBLEMS**

1. Macy’s, Inc., through its subsidiaries, operates approximately 800 department stores in the United States. Its retail stores sell a range of merchandise, including men’s, women’s, and children’s apparel, accessories, cosmetics, home furnishings, and house-
wares. Senior management has decided that Macy’s needs to tailor merchandise more to local tastes, that the colors, sizes, brands, and styles of clothing and other merchandise should be based on the sales patterns in each individual Macy’s store. For example, stores in Texas might stock clothing in larger sizes and brighter colors than those in New York, or the Macy’s on Chicago’s State Street might include a greater variety of makeup shades to attract trendier shoppers. How could information systems help Macy’s management implement this new strategy? What pieces of data should these systems collect to help management make merchandising decisions that support this strategy?

2. Sprint Nextel has the highest rate of customer churn (the number of customers who discontinue a service) in the cell phone industry, amounting to 2.45 percent. Management wants to know why so many customers are leaving Sprint and what can be done to woo them back. Are customers deserting because of poor customer service, uneven network coverage, or the cost of Sprint cell phone plans? How can the company use information systems to help find the answer? What management decisions could be made using information from these systems?

IMPROVING DECISION MAKING: USING A DATABASE TO CLARIFY BUSINESS STRATEGY

Software skills: Database querying and reporting; database design
Business skills: Reservation systems; customer analysis

In this exercise, you’ll use database software to analyze the reservation transactions for a hotel and use that information to fine-tune the hotel’s business strategy and marketing activities.

The Presidents’ Inn is a small three-story hotel on the Atlantic Ocean in Cape May, New Jersey, a popular northeastern U.S. resort. Ten rooms overlook side streets, 10 rooms have bay windows that offer limited views of the ocean, and the remaining 10 rooms in the front of the hotel face the ocean. Room rates are based on room choice, length of stay, and number of guests per room. Room rates are the same for one to four guests. Fifth and sixth guests must pay an additional $20 charge each per person per day. Guests staying for seven days or more receive a 10 percent discount on their daily room rates.

Business has grown steadily during the past 10 years. Now totally renovated, the inn uses a romantic weekend package to attract couples, a vacation package to attract young families, and a weekday discount package to attract business travelers. The owners currently use a manual reservation and bookkeeping system, which has caused many problems. Sometimes two families have been booked in the same room at the same time. Management does not have immediate data about the hotel’s daily operations and income.

In MyMISLab, you will find a database for hotel reservation transactions developed in Microsoft Access. Illustrated below on the next page are some sample records from that database.

Develop some reports that provide information to help management make the business more competitive and profitable. Your reports should answer the following questions:

- What is the average length of stay per room type?
- What is the average number of visitors per room type?
- What is the base income per room (i.e., length of visit multiplied by the daily rate) during a specified period of time?
- What is the strongest customer base?

After answering these questions, write a brief report describing what the database information reveals about the current business situation. Which specific business strategies might be pursued to increase room occupancy and revenue? How could the database be improved to provide better information for strategic decisions?
IMPROVING DECISION MAKING: USING WEB TOOLS TO CONFIGURE AND PRICE AN AUTOMOBILE

Software skills: Internet-based software
Business skills: Researching product information and pricing

In this exercise, you will use software at Web sites for selling cars to find product information about a car of your choice and use that information to make an important purchase decision. You will also evaluate two of these sites as selling tools.

You are interested in purchasing a new Ford Escape (if you are personally interested in another car, domestic or foreign, investigate that one instead). Go to the Web site of CarsDirect (www.carsdirect.com) and begin your investigation. Locate the Ford Escape. Research the various specific automobiles available in that model and determine which you prefer. Explore the full details about the specific car, including pricing, standard features, and options. Locate and read at least two reviews, if possible. Investigate the safety of that model based on the U.S. government crash tests performed by the National Highway Traffic Safety Administration if those test results are available. Explore the features for locating a vehicle in inventory and purchasing directly. Finally, explore the other capabilities of the CarsDirect site for financing.

Having recorded or printed the information you need from CarsDirect for your purchase decision, surf the Web site of the manufacturer, in this case Ford (www.ford.com). Compare the information available on Ford’s Web site with that of CarsDirect for the Ford Escape. Be sure to check the price and any incentives being offered (which may not agree with what you found at CarsDirect). Next, find a dealer on the Ford site so that you can view the car before making your purchase decision. Explore the other features of Ford’s Web site.

Try to locate the lowest price for the car you want in a local dealer’s inventory. Which site would you use to purchase your car? Why? Suggest improvements for the sites of CarsDirect and Ford.

LEARNING TRACKS

The following Learning Tracks provide content relevant to topics covered in this chapter:

1. Challenges of Information Systems for Competitive Advantage
2. Primer on Business Process Management
3. Primer on Business Process Design
Review Summary

1. How does Porter’s competitive forces model help companies develop competitive strategies using information systems? In Porter’s competitive forces model, the strategic position of the firm, and its strategies, are determined by competition with its traditional direct competitors. They are also greatly affected by new market entrants, substitute products and services, suppliers, and customers. Information systems help companies compete by maintaining low costs, differentiating products or services, focusing on market niche, strengthening ties with customer and suppliers, and increasing barriers to market entry with high levels of operational excellence. Information systems are most successful when the technology is aligned with business objectives.

2. How do the value chain and value web models help businesses identify opportunities for strategic information system applications? The value chain model highlights specific activities in the business where competitive strategies and information systems will have the greatest impact. The model views the firm as a series of primary and support activities that add value to a firm’s products or services. Primary activities are directly related to production and distribution, whereas support activities make the delivery of primary activities possible. A firm’s value chain can be linked to the value chains of its suppliers, distributors, and customers. A value web consists of information systems that enhance competitiveness at the industry level by promoting the use of standards and industry-wide consortia, and by enabling businesses to work more efficiently with their value partners.

3. How do information systems help businesses use synergies, core competences, and network-based strategies to achieve competitive advantage? Because firms consist of multiple business units, information systems achieve additional efficiencies or enhanced services by tying together the operations of disparate business units. Information systems help businesses leverage their core competencies by promoting the sharing of knowledge across business units. Information systems facilitate business models based on large networks of users or subscribers that take advantage of network economics. A virtual company strategy uses networks to link to other firms so that a company can use the capabilities of other companies to build, market, and distribute products and services. Disruptive technologies provide strategic opportunities, although “first movers” do not necessarily obtain long-term benefit.

4. How do competing on a global scale and promoting quality enhance competitive advantage? Information systems and the Internet can help companies operate internationally by facilitating coordination of geographically dispersed units of the company and communication with faraway customers and suppliers. Information systems can enhance quality by simplifying a product or service, facilitating benchmarking, reducing product development cycle time, and improving quality and precision in design and production.

5. What is the role of business process management (BPM) in enhancing competitiveness? Organizations often have to change their business processes in order to execute their business strategies successfully. If these business processes use technology, they can be redesigned to make the technology more effective. BPM combines and streamlines the steps in a business process to eliminate repetitive and redundant work and to achieve dramatic improvements in quality, service, and speed. BPM is most effective when it is used to strengthen a good business model and when it strengthens processes that have a major impact on firm performance.
Chapter 3: Achieving Competitive Advantage with Information Systems

**Key Terms**

- Benchmarking, 90
- Business process management (BPM), 101
- Best practices, 90
- Business process reengineering (BPR), 104
- Competitive forces model, 81
- Computer-aided design (CAD) system, 101
- Core competency, 92
- Cycle time, 100
- Disruptive technologies, 94
- Domestic exporter, 98
- Efficient customer response system, 84
- Franchiser, 99
- Mass customization, 85
- Multinational, 98
- Network economics, 93
- Primary activities, 89
- Quality, 99
- Six sigma, 100
- Support activities, 89
- Total quality management (TQM), 100
- Transnational, 98
- Value chain model, 89
- Value web, 91
- Virtual company, 93

**Review Questions**

1. How does Porter’s competitive forces model help companies develop competitive strategies using information systems?
   - Define Porter’s competitive forces model and explain how it works.
   - List and describe four competitive strategies enabled by information systems that firms can pursue.
   - Describe how information systems can support each of these competitive strategies and give examples.
   - Explain why aligning IT with business objectives is essential for strategic use of systems.

2. How do the value chain and value web models help businesses identify opportunities for strategic information system applications?
   - Define and describe the value chain model.
   - Explain how the value chain model can be used to identify opportunities for information systems.
   - Define the value web and show how it is related to the value chain.
   - Explain how the value web helps businesses identify opportunities for strategic information systems.
   - Describe how the Internet has changed competitive forces and competitive advantage.

3. How do information systems help businesses use synergies, core competencies, and network-based strategies to achieve competitive advantage?
   - Explain how information systems promote synergies and core competencies.
   - Describe how promoting synergies and core competencies enhances competitive advantage.
   - Explain how businesses benefit by using network economics.
   - Define and describe a virtual company and the benefits of pursuing a virtual company strategy.
   - Explain how disruptive technologies create strategic opportunities.

4. How do competing on a global scale and promoting quality enhance competitive advantage?
   - Describe how globalization has increased opportunities for businesses.
   - List and describe the four main ways of organizing a business internationally and the types of systems configuration for global business organizations.
   - Define quality and compare the producer and consumer definitions of quality.
   - Describe the various ways in which information systems can improve quality.
5. What is the role of business process management (BPM) in enhancing competitiveness?
   • Define BPM and explain how it helps firms become more competitive.
   • Distinguish between BPM and business process reengineering (BPR).
   • List and describe the steps companies should take to make sure BPM is successful.

Discussion Questions

1. It has been said that there is no such thing as a sustainable competitive advantage. Do you agree? Why or why not?

2. What are some of the issues to consider in determining whether the Internet would provide your business with a competitive advantage?

Video Cases

Video Cases and Instructional Videos illustrating some of the concepts in this chapter are available. Contact your instructor to access these videos.

Collaboration and Teamwork

Identifying Opportunities for Strategic Information Systems

With your team of three or four students, select a company described in the Wall Street Journal, Fortune, Forbes, or another business publication. Visit the company’s Web site to find additional information about that company and to see how the firm is using the Web. On the basis of this information, analyze the business. Include a description of the organization’s features, such as important business processes, culture, structure, and environment, as well as its business strategy. Suggest strategic information systems appropriate for that particular business, including those based on Internet technology, if appropriate. If possible, use Google Sites to post links to Web pages, team communication announcements, and work assignments; to brainstorm; and to work collaboratively on project documents. Try to use Google Docs to develop a presentation of your findings for the class.
EBay Fine-Tunes Its Strategy

Since its inception, eBay has been synonymous with Internet auctions. The company has been the first and by far the most successful Internet auction business, mushrooming into a gigantic electronic marketplace hosting 25 million sellers all over the world. Founded in 1995 by Pierre Omidyar and originally known as AuctionWeb, eBay has come a long way from its first sale, a broken laser pointer. The company now sells a staggeringly diverse array of goods and is one of the world’s most easily recognizable and well-known Web sites.

In 1998, eBay had revenues of $4.8 million in the United States. A decade later in 2008, eBay’s marketplaces generated over $8.5 billion in revenue worldwide from selling $60 billion in merchandise. Hundreds of thousands of people support themselves by selling on eBay and many millions more use eBay to supplement their income. During the 2008 holiday season, eBay was the most visited site on the Web, with 85.4 million active visitors.

But while impressive at first glance, eBay’s numbers have been slowing down for years. In the very same quarter in which eBay logged 85.4 million visitors, the company’s revenue shrank for the first time in the company’s history. The biggest cause for eBay’s weakening outlook is the same area of the company that propelled it to stardom: its online auction business.

Consumers have indicated a strong preference for fixed-price bulk retailers, like Amazon, which has sustained steady growth despite the economic downturn. For many buyers, the novelty of online auctions has worn off, and these buyers have returned to the easier and simpler method of buying fixed-price goods. Search engines and comparison-shopping sites have also taken away some of eBay’s auction business by making items easier to find on other Web sites.

Although the company was slow to diagnose this trend, eBay’s leadership has begun taking the necessary steps to meet the shift in demand by consumers from auctions to fixed-price goods. The company unveiled a three-year revival plan in which the overall goal was to create a comprehensive array of marketplaces concentrated in one central online location. Bidding on auctions, clicking on ads, scanning classifieds, and making outright purchases will all be possible from the flagship eBay site and its affiliates.

CEO John Donahoe wants to focus eBay’s business on the “secondary market,” which includes overstock and out-of-season items as well as the used and antique items that eBay has been known for. He wants the eBay buying experience to emulate that of a low-price bulk retailer such as Costco, where “the inventory is somewhat fluid, but everything they’ve got is a great deal.”

To that end, Donahoe is trying to move eBay away from auctions and toward fixed-price listings. Although this move has appealed to investors, it angered many of the smaller sellers of unique goods that have come to symbolize the company’s success. Some longtime sellers chose to move their business elsewhere.

EBay has traditionally derived the bulk of its revenue from fees and commissions associated with its sales transactions. A portion of eBay’s revenue comes from direct advertising on the site, and some comes from end-to-end service providers such as PayPal, which increases the ease and speed of eBay transactions. The site imposes several types of fees on sellers, including posting fees for listing items as well as a collection fee on sold items. Traditionally, eBay was seen as a favorable proposition for smaller sellers to find markets for rare goods, or goods that are otherwise difficult to value.

In order to provide more incentive for bulk sellers of fixed-price goods to post their items on the site, eBay significantly adjusted its fee structure as part of its revival plan. The company reduced posting fees for adding an item online and increased the collection fee for sold items. For example, the fee to list a $25 auction item dropped to $1.00 from $1.20, but eBay’s sales commission on the same item rose from 5.75 percent to 8.75 percent. In August 2008, eBay lowered its listing fees for all sellers offering fixed-priced items under its “Buy It Now” format.

For bulk sellers, this was a boon. Prior to the change, posting large quantities of items was an expensive undertaking, since only a fraction of those posted items actually sold. Paying these posting fees represented the majority of bulk sellers’ expenditures. But for smaller sellers of unique, expensive items, increasing collection fee percentages meant that they would make significantly less per sale.

EBay also adjusted its search ordering system so that highly rated merchants appear first and receive more exposure. Previously, the first items to be displayed were those for which an auction was about to end. EBay’s new search system uses a complicated formula that takes into account an item’s price and how well that item’s performance in the auction.

CEO John Donahoe wants to focus eBay’s business on the “secondary market,” which includes overstock and out-of-season items as well as the used and antique items that eBay has been known for. He wants the eBay buying experience to emulate that of a low-price bulk retailer such as Costco, where “the inventory is somewhat fluid, but everything they’ve got is a great deal.”
favoring larger sellers with the time and energy to build a favorable rating. The company also removed the ability of sellers to assign negative ratings to buyers, a feature which many sellers felt protected them against late or non-payment on the part of buyers. The company’s reasoning for this change was to stop sellers from rating buyers poorly as revenge for poor customer satisfaction ratings. Smaller sellers were incensed, claiming that the company was unnecessarily mistreating the group that spurred them to market dominance.

Not long ago, eBay’s growth strategy focused on expansion in geography and scope and on continuing innovation to enhance the variety and appeal of products on its sites. eBay has always been active in developing and acquiring new products and services that encompass all the activities people perform on the Internet. Earlier this decade, the company fashioned a diversified portfolio of companies with a hand in each of the Internet’s big cash pots: shopping, communicating, search, and entertainment. They are now realizing that some of these acquisitions were not good fits with their core business.

PayPal, whose service enables the exchange of money between individuals over the Internet, brings additional transaction-based fee revenue, and has been a significant bright spot for eBay’s future prospects. eBay is banking on PayPal becoming the standard payment method for online transactions. The service already attracts 40 percent of its business from payment transactions that are not associated with eBay. Management is using PayPal, a high-growth area, to help refocus the business and jump-start stagnant growth.

In 2005, eBay acquired Shopping.com, an online shopping comparison site, and Skype Technologies, which provides a service for free or low-cost voice calls over the Internet. Markets that eBay traditionally had trouble penetrating, such as real estate, travel, new-car sales, and expensive collectibles, require more communication among buyers and sellers than eBay currently offers, and Skype provides voice communication services to help.

But in 2009, eBay announced its plans to unload Skype, admitting its mistake in acquiring the company. eBay assumed that buyers and sellers would use Skype to communicate about transactions, but the feature never caught on as expected. Skype cost eBay $2.6 billion, and eBay stands to recoup only a portion of that initial sum. Investors had urged the company to rid itself of Skype and channel the funds they receive into new growth initiatives.

Despite its mistake in acquiring Skype, eBay is still trying to expand the business via acquisitions. The company also acquired the ticket-reselling Web site StubHub, bought a 25 percent stake in classified ad site Craigslist, and purchased Kurant (now ProStores), whose technology helps users set up online stores. Some analysts report that while many of eBay’s individual acquisitions appear to have been successful, they haven’t created the synergy that was intended, and diversification has detracted from eBay’s core business, auctions.

But that might be what eBay has intended all along. Mom and pop dealers have objected vociferously to most of eBay’s recent changes. Donahoe regularly appears on lists of “disliked CEOs,” and sellers have voiced their discontent via online forums and shareholder meetings. But Donahoe and the rest of eBay’s management maintains that hosting fixed-price sales by reliable retailers makes shopping more customer-friendly and predictable. Will cultivating large sellers dilute eBay’s brand and reputation as a dynamic flea market? Or will it steer eBay toward the fastest part of e-commerce growth?

Reports from 2009 appear promising. Despite the unfavorable economic climate, eBay’s stock has rallied from lows early in the year, gaining 71%. However, eBay’s site traffic is continuing to slowly erode as consumers gravitate towards Amazon and other similar sites. eBay still has a way to go to recoup its dot-com boom glory days. Can the Web’s most prominent online auction site change course so dramatically from the formula that made it successful?


Case Study Questions
1. Apply the value chain and competitive forces model to eBay.
2. What is eBay’s business model and business strategy? How successful has it been?
3. What are the problems that eBay is currently facing? How is eBay trying to solve these problems?
4. Are these good solutions? Why or why not? Are there any other solutions that eBay should consider?
5. What people, organization, and technology factors play a role in eBay’s response to its problems?
6. Will eBay be successful in the long run? Why or why not?