Chapter 2
Organizational Strategy, Competitive Advantage, and Information Systems
1. Understand the concept of business processes, and provide examples of business processes in the functional areas of an organization.

2. Differentiate between the terms business process reengineering and business process management.

3. List and provide examples of the three types of business pressures, and describe one IT response to each.

4. Identify the five competitive forces described by Porter, and explain how the Web has an impact on each one.

5. Describe the strategies that organizations typically adopt to counter the five competitive forces and achieve competitive advantage.

6. Define business–information technology alignment, and describe the characteristics of effective alignment.

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**What’s In IT For Me?**

This chapter will help prepare you to ...

- ACCT: Perform audits
- FIN: Determine best uses for funds
- MKT: Conduct price analyses
- POM: Monitor product quality
- HR: Help employees manage their careers
- MIS: Develop systems to support firm’s strategy
BP's First Problem

In 2008, CEO Tony Hayward of BP (www.bp.com) informed his top 500 managers that the giant oil company had become a serial underperformer. In the audience was Dana Deasy, BP’s chief information officer (CIO). Deasy understood that BP’s IT group would have to do a much better job of supporting the CEO’s goals: to restore revenue growth across the enormous (annual revenues of $300 billion) company, to refocus the behavior of the company around high performance and accountability, and to reduce the complexity of the organization. The IT group had become bloated, passive, unfocused, and unconcerned with performance and accountability.

Deasy wanted to eliminate $800 million in expenses from BP’s overall IT budget of $3 billion, to halve the number of IT vendors, to evaluate BP’s 4,200 IT employees, to reduce the 8,500 software applications in use at BP worldwide, and to transform the IT function from a cost center into a business-driven, strategic weapon. Confronted with a vast sprawl in people, budget, priorities, requirements, business objectives, and suppliers, Deasy undertook a three-year overhaul of every facet of BP’s IT operations.

The Solution to BP’s First Problem

Deasy made BP’s IT employees his first priority. Significantly, only 55 percent of his IT personnel were actually BP employees. The rest consisted of some 1,900 contractors. Deasy cut 1,000 full-time contractor positions, reducing BP’s reliance on outsiders. In addition, in his first 11 months as CIO, Deasy replaced 80 percent of the top IT leadership within the organization.

Deasy then hired IBM to conduct comprehensive assessments of the top 1,000 IT employees (excluding the remaining contractors). This assessment identified talent gaps as well as inherent strengths. The most pressing issues were the organizational location of the IT function, project and portfolio management, and vendor management.

In his next move, Deasy mandated that the CIO for each BP business unit work for the business unit leader while also reporting to Deasy in a matrix arrangement. Deasy made accountability the first priority for those CIOs. That is, their primary responsibility was to help the business units use IT effectively to drive new revenue and reduce costs.

Deasy then set out to reduce the number of IT vendors. Not only was BP currently contracting with more than 2,000 vendors, but the 20 largest vendors accounted for only 30 percent of IT spending. To make this arrangement more manageable, BP put 65 percent of its annual global IT spending—about $1.5 billion—up for rebid in one year. As a result of the bidding process, BP eliminated 1,200 IT vendors and saved the company $900 million over the next five years.

Deasy also aggressively reworked vendor relationships in the area of application development and maintenance. In this area, BP had been using some fifty vendors, most of whom refused to talk with one another for fear of losing their share of BP’s business. BP rebid multi-year application development and maintenance contracts totaling about $2 billion and ended up with just five vendors. These vendors handle all of the work according to a standard operating model. Deasy predicts some $500 million in savings from this effort alone.

As one of SAP’s largest customers, BP created a team focused on standardizing project delivery and management of SAP applications around the world. BP’s goal was to deliver new SAP capabilities 50 percent faster and 40 percent cheaper than under the existing system.

The Results

Deasy and his team accomplished their goals in two years instead of three. BP realized $800 million in IT savings, a 60 percent reduction in the number of vendors, a significant reduction in the number of applications, and an overhaul of the IT reporting structure in the business units.
However, the two major benefits may well have been:

- The top-to-bottom changes in IT personnel, where long-time generalists were replaced with technology specialists or business-domain experts.
- The profound overhaul of the IT organization’s culture, where Deasy changed the passive, inwardly focused, financially irresponsible, and unaccountable philosophy to a culture with a sense of purpose centered on business growth and success, excellence, and relentless improvement and innovation.

### BP’s Second Problem

In April 2010, just as BP was beginning to profit from its IT innovations, the company’s Deepwater Horizon oil well, located in the Gulf of Mexico, exploded, resulting in the largest marine oil spill in the history of the petroleum industry. The well took three months to cap, during which time oil continued to pour into the Gulf.

The explosion was investigated by the Oil Spill Commission, an authority created by President Barack Obama. The key verdict of the commission was that BP’s monitoring IT systems on the Deepwater Horizon oil platform had failed to provide automatic warning alerts. Instead, BP had relied on engineers who had to manually monitor and analyze complex data from the well for long periods of time. Because the engineers had to perform so many simultaneous functions over long work days, they needed much more support from BP’s automated systems.

The commission further charged that BP had ignored the results of the OptiCem cement modeling software implemented by Halliburton, the cement contractor. OptiCem had indicated that more stabilizers were needed to support the underwater cement work. The commission also criticized Halliburton for failing to share data from tests on its cement mix with BP.

In addition to these problems, BP also failed to take advantage of social networking to open a clear line of communication with people living on the coast of the Gulf of Mexico and around the world. BP could have used social media sites such as Facebook, YouTube, and Twitter to report on the problem and explain what steps the company was taking to cap the spill and contain the damage.

Just a couple of decades ago, companies had time to devise strategies to deal with disasters. An excellent illustration is the Tylenol poisoning crisis of 1982, when seven Chicago residents died after ingesting Tylenol capsules laced with cyanide. Experts concluded that somebody had tampered with the capsules after they had been packaged and distributed. The drug’s manufacturer, Johnson & Johnson, immediately shut down distribution and recalled all of the capsules that were on the market. Next, the company reintroduced Tylenol, now packaged in a tamper-resistant pill container, to the market. This entire process, for which Johnson & Johnson received widespread acclaim, took several weeks. In contrast, in today’s world of viral videos, bloggers, and social networks, companies cannot wait even a few days to generate a public response.

### The Solution (?) to BP’s Second Problem

In addition to technological efforts to cap the spill, BP spared no expense on public relations. For example, it spent huge sums of money to buy up Google ads, which routed people to BP’s relatively inaccurate Web site. Reports from Reuters asserted that BP was buying Google ads so that its own Web site would rank higher or even at the top of the list of advertisements that appeared with search results when Internet users searched on terms such as “oil spill,” “volunteer,” and “claims.” The BP Web site contained press releases and photographs of people involved in the oil cleanup. Notably missing were any pictures of the oil spill itself, of oil-drenched wetlands, or of animals dying from the effects of the spill.

### The Results

It took three months, but BP was able to cap the spill. However, scientists said that the damage from the oil would continue for many years.
At the end of 2010, the U.S. government launched a $21.1 billion lawsuit against BP and its drilling partners, alleging that they had “failed . . . to use the best available and safest drilling technology” to monitor pressure in the well. Other lawsuits are pending.

Finally, BP CEO Tony Hayward resigned his position on October 1, 2010.

What We Learned from This Case

The BP case illustrates the importance of information systems in helping the company respond to business pressures and in supporting the company’s global strategy. The case demonstrates that any information system can be strategic, meaning that it can provide a competitive advantage if used properly.

The case also demonstrates the incredible complexity of the information systems employed by a large, international company. BP did an excellent job of revamping the information systems that support its business operations. However, the company seemed to neglect those information systems that support its drilling operations, which are clearly just as strategic as the firm’s business information systems.

Information systems can be just as strategic to a small or medium-sized company as they are to a large firm. IT’s About [Small] Business 2.1 illustrates how information systems are strategically important to Before the Stores.

Have you ever seen a commercial for something sold “As Seen on TV” and forgotten the phone number? Maybe you also heard about a Web site, tried to remember it, but just could not seem to get it right. Where would you start? How would you find that product that you wanted?

Amar Kahbuni has the answer to your problem. In 2008, as a sophomore in college, he founded a company called Before the Stores. His strategy was simple: Sell “As Seen on TV” products before they get into the stores. However, rather than selling these products through commercials, Amar would capitalize on the commercials and sell them on the Web. He had sold items on the Web before, but to implement his new idea he would need a much more sophisticated order fulfillment system. And what college sophomore has time to develop this type of system?

Amar found his answer with the Amazon Web store. He used the fulfillment by Amazon (FBA) service offered to Amazon’s business customers. This service provides businesses with an easy method of listing products, inventories, and prices; taking orders; accepting payment; and, ultimately, scheduling deliveries.

Additionally, Before the Stores would capitalize on two major markets: (1) the infomercials that often advertise these products and (2) Amazon’s customer base. In fact, many people go to Amazon to try to find a product that they heard about. Amar was going to make it easy for them to find it.

Fortunately for Amar, his school—Babson College in Maryland—believed Before the Store would be a success. As a sophomore in 2008, Amar won the Business Plan Competition and a significant cash award. However, only time would tell if this venture would be successful.

The results speak for themselves. Sales tripled from the third quarter of 2008 to the third quarter of 2009. Then, during the 2009 holiday season, sales increased 300 percent over the same period in 2008. By the fourth quarter of 2009, Amar was shipping more than 1,500 orders per week through FBA. Amar’s business, Before the Stores, was a success.

Questions

1. Provide specific examples of the services that Fulfillment by Amazon provided for Amar.

2. Provide specific examples of the value that Amar provides his customers.


Strategy and competitive advantage come in many forms. (Competitive advantage is an advantage over competitors in some measure such as cost, quality, or speed; it leads to control of a market and to larger-than-average profits.) Amar found a niche where he could use existing electronic commerce (e-commerce) systems and advertising to create a competitive advantage. Capitalizing on Amazon's customer base and advertising from infomercials, he started a business that already had a market. He also enjoyed a distinct advantage over stores that ultimately sell these items because he provided an easy way for customers to find the product as soon as they heard about it on TV. Basically, he got to the customers first. Additionally, Amar had very little overhead because Amazon handled the e-commerce side of his operation. He did not have to purchase, design, set up, or secure costly information systems. He only had to sign up—not set up—to put his business in operation, because Amazon provided the infrastructure for his business.

By the way, Amazon is always looking for unique business ideas. What could you do with an Amazon store?

Although there are many examples of companies that use technology in more expensive ways, Amar’s example demonstrates that an entrepreneurial spirit and a solid understanding of what IT can do for you will provide competitive advantages to sophomores in college just as they do for Wall Street CIOs. As you study this chapter, think of the small businesses in your area that are doing interesting things with popular technologies. Do any of them use Twitter in an interesting way? Facebook? Amazon? PayPal? If not, can you think of any businesses that would benefit from using these technologies?

This chapter is important for you for several reasons. First, the business pressures addressed here will affect your organization, but they also will affect you. As a result, you must understand how information systems can help you, and eventually your organization, respond to these pressures.

In addition, acquiring competitive advantage is essential for your organization’s survival. Many organizations achieve competitive advantage through the efforts of their employees. Therefore, becoming knowledgeable about strategy and how information systems have an impact on strategy and competitive position will help you throughout your career.

This chapter encourages you to become familiar with your organization’s strategy, mission, and goals and to understand its business problems and how it makes (or loses) money. It will help you understand how information technology contributes to organizational strategy. Further, you likely will become a member of business/IT committees that decide (among many other things) whether to adopt new technologies and how to use existing technologies more effectively. After studying this chapter, you will be able to make immediate contributions in these committees when you join your organizations.

In many cases, organizations gain competitive advantage by managing their business processes better than their competitors do. Therefore, you begin this chapter with a brief introduction to business processes and business process management. You will then see how information systems enable organizations to respond to business pressures. Next, you will learn how information systems help organizations gain competitive advantages in the marketplace. The chapter concludes by discussing business–IT alignment; in other words, how an organization’s IT function supports the organization’s strategy.

### 2.1 Business Processes

A business process is an ongoing collection of related activities that create a product or a service of value to the organization, its business partners, and/or its customers. A process has inputs and outputs, and its activities can be measured. Many processes cross functional areas in an organization. For example, product development involves research, design, engineering, manufacturing, marketing, and distribution. Other processes involve only a single functional area. Table 2.1 identifies the fundamental business processes performed in an organization’s functional areas.

**Cross-Functional Processes**

All of the business processes discussed above fall within a single functional area of the company. However, many other business processes, such as procurement and fulfillment, cut across multiple...
Table 2.1

Examples of Business Processes

<table>
<thead>
<tr>
<th>Accounting Business Processes</th>
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<td>• Applying disability policies</td>
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<td>• Managing accounts receivable</td>
<td>• Managing employee hiring</td>
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<td>• Reconciling bank accounts</td>
<td>• Handling employee orientation</td>
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<td>• Managing cash receipts</td>
<td>• Managing files and records</td>
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<td>• Managing invoice billings</td>
<td>• Applying health care benefits</td>
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<td>• Managing petty cash</td>
<td>• Managing pay and payroll</td>
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<tr>
<td>• Producing month-end close</td>
<td>• Producing performance appraisals and salary adjustments</td>
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<td>• Producing virtual close</td>
<td>• Managing resignations and terminations</td>
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<th>Finance Business Processes</th>
<th>Management Information Systems Business Processes</th>
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<td>• Managing account collection</td>
<td>• Antivirus control</td>
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<tr>
<td>• Managing bank loan applications</td>
<td>• Computer security issues incident reporting</td>
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<tr>
<td>• Producing business forecasts</td>
<td>• Training computer users</td>
</tr>
<tr>
<td>• Applying customer credit approval and credit terms</td>
<td>• Computer user/staff training</td>
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<td>• Producing property tax assessments</td>
<td>• Applying disaster recovery procedures</td>
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<tr>
<td>• Managing stock transactions</td>
<td>• Applying electronic mail policy</td>
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<tr>
<td>• Generating financial cash flow reports</td>
<td>• Generating Internet use policy</td>
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<th>Marketing Business Processes</th>
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<td>• Managing post-sale customer follow-up</td>
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<td>• Collecting sales taxes</td>
<td>• Applying user workstation standards</td>
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<td>• Applying copyrights and trademarks</td>
<td>• Managing the use of personal software</td>
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<td>• Using customer satisfaction surveys</td>
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<td>• Managing customer service</td>
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<td>• Handling customer complaints</td>
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<td>• Handling returned goods from customers</td>
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<tr>
<td>• Producing sales leads</td>
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<tr>
<td>• Entering sales orders</td>
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<td>• Training sales personnel</td>
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<th>Production/Operations Management Business Processes</th>
<th>Management Information Systems Business Processes</th>
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<tr>
<td>• Processing bills of materials</td>
<td>• Antivirus control</td>
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<tr>
<td>• Processing manufacturing change orders</td>
<td>• Computer security issues incident reporting</td>
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<tr>
<td>• Managing master parts list and files</td>
<td>• Training computer users</td>
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functional areas; that is, they are cross-functional business processes, meaning that no single functional area is responsible for their execution. Rather, multiple functional areas collaborate to perform the process. For a cross-functional process to be successfully completed, each functional area must execute its specific process steps in a coordinated, collaborative way. To clarify this point, let’s examine the procurement and fulfillment cross-functional processes in more detail.

The procurement process includes all of the tasks involved in acquiring needed materials externally from a vendor. Procurement comprises five steps that are completed in three different functional areas of the firm: warehouse, purchasing, and accounting.

The process begins when the warehouse recognizes the need to procure materials, perhaps due to low inventory levels. The warehouse documents this need with a purchase requisition, which it sends to the purchasing department (Step 1). In turn, the purchasing department identifies a suitable vendor, creates a purchase order based on the purchase requisition, and sends the order to the vendor (Step 2). When the vendor receives the purchase order, it ships the materials, which are received in the warehouse (Step 3). The vendor then sends an invoice,
which is received by the accounting department (Step 4). Accounting sends payment to the vendor, thereby completing the procurement process (Step 5).

The fulfillment process is concerned with efficiently processing customer orders. Fulfillment is triggered by a customer purchase order that is received by the sales department. Sales then validates the purchase order and creates a sales order. The sales order communicates data related to the order to other functional areas within the organization, and it tracks the progress of the order. The warehouse prepares and sends the shipment to the customer. Once accounting is notified of the shipment, it creates an invoice and sends it to the customer. The customer then makes a payment, which accounting records.

An organization’s business processes can create a competitive advantage if they enable the company to innovate or to execute better than its competitors. They can also be liabilities if they make the company less responsive and efficient. Consider the airline industry. It has become a competitive necessity for all of the airlines to offer electronic ticket purchases via their Web sites. At the same time, however, these sites must be highly responsive and provide the most current information on flights and prices. An up-to-date, user-friendly site will attract customers and increase revenues. In contrast, a site that provides outdated or inaccurate information will hurt rather than improve business. Figure 2.1 illustrates the e-ticket purchasing business process.

before you go on...

1. What is a business process?
2. Describe several business processes carried out at your university.
3. Define a cross-functional business process, and provide several examples of such processes.
2.2 Business Process Reengineering and Business Process Management

Excellence in executing business processes is widely recognized as the underlying basis for all significant measures of competitive performance in an organization. Consider these measures, for example:

- **Customer satisfaction:** the result of optimizing and aligning business processes to fulfill customers’ needs, wants, and desires.
- **Cost reduction:** the result of optimizing operations and supplier processes.
- **Cycle and fulfillment time:** the result of optimizing the manufacturing and logistics processes.
- **Quality:** the result of optimizing the design, development, and production processes.
- **Differentiation:** the result of optimizing the marketing and innovation processes.
- **Productivity:** the result of optimizing each individual’s work processes.

The question is: How does an organization ensure business process excellence?

In their book *Reengineering the Corporation*, first published in 1993, Michael Hammer and James Champy argued that in order to become more competitive, American businesses needed to radically redesign their business processes to reduce costs and increase quality. The authors further asserted that information technology is the key enabler of such change. This radical redesign, called **business process reengineering (BPR),** is a strategy for improving the efficiency and effectiveness of an organization’s business processes. The key to BPR is for enterprises to examine their business processes from a “clean sheet” perspective and then determine how they can best reconstruct those processes to improve their business functions.

Although some enterprises successfully implemented BPR, many organizations found this strategy too difficult, too radical, and too comprehensive. The impact on employees, on facilities, on existing investments in information systems, and even on organizational culture was overwhelming. Despite the many failures in BPR implementation, however, businesses increasingly began to organize work around business processes rather than individual tasks. The result was a less radical, less disruptive, and more incremental approach, called business process management. **Business process management (BPM)** is a management technique that includes methods and tools to support the design, analysis, implementation, management, and optimization of business processes.

BPM initially helps companies improve profitability by decreasing costs and increasing revenues. Over time, BPM can create a competitive advantage by improving organizational flexibility. For many companies, BPM can provide cost benefits and increase customer satisfaction. In all cases the company’s strategy should drive the BPM effort, as the case of Enterprise illustrates.

**Example**

Enterprise Rent-A-Car® ([www.enterprise.com](http://www.enterprise.com)) is one of the largest car rental companies in the world. The company’s Request Services department processes, approves, and fulfills requests for IT hardware, software, and services from 65,000 Enterprise employees located in 7,000 locations worldwide. Historically this department had used multiple manual systems to manage this process. As the company expanded, however, this system could no longer keep up with the growing number of IT requests. Determined to improve this process, Enterprise initiated a BPM project and selected a product from Appian ([www.appian.com](http://www.appian.com)) for this project.

Before Enterprise actually started the project, the company made certain that its strategy was in place. Enterprise recognized that implementing a new process would transform the company’s traditional work behaviors. Therefore, the Request Services department engaged key stakeholders—primarily the people who approve IT product and service requests and the people who fulfill these requests—early in the project. The company also educated employees about BPM in general as well as how to use the new Appian system.
After the BPM system was implemented, Enterprise eliminated its manual processes entirely. Its employees now use the Appian system to request IT products and services. Significantly, they now fulfill requests more promptly while making fewer errors than they did with the manual system. In addition, the new process contains business rules that provide appropriate restrictions on fulfillment (e.g., what IT hardware, software, or service an employee is entitled to).

Important components of BPM are process modeling, Web-enabled technologies, and business activity monitoring. BPM begins with process modeling, which is a graphical depiction of all the steps in a process. Process modeling helps employees understand the interactions and dependencies among the people, the information systems they rely on, and the information they require to optimally perform their tasks.

Web-enabled technologies display and retrieve data via a Web browser. They enable an organization to integrate the necessary people and applications into each process.

Business activity monitoring (BAM) is a real-time approach for measuring and managing business processes. Companies use BAM to monitor their business processes, identify failures or exceptions, and address these failures in real time. Further, because BAM tracks process operations and indicates whether they succeed or fail, it creates valuable records of process behaviors that organizations can use to improve their processes.

before you go on...
1. What is business process reengineering?
2. What is business process management?

2.3 Business Pressures, Organizational Responses, and Information Technology Support

Modern organizations compete in a challenging environment. To remain competitive they must react rapidly to problems and opportunities that arise from extremely dynamic conditions. In this section you examine some of the major pressures confronting modern organizations and the strategies that organizations employ to respond to these pressures.

Business Pressures

The business environment is the combination of social, legal, economic, physical, and political factors in which businesses conduct their operations. Significant changes in any of these factors are likely to create business pressures on organizations. Organizations typically respond to these pressures with activities supported by IT. Figure 2.2 illustrates the relationships among business pressures, organizational performance and responses, and IT support. You will learn about three major types of business pressures: market, technology, and societal pressures.

Market Pressures. Market pressures are generated by the global economy, intense competition, the changing nature of the workforce, and powerful customers. Let’s look more closely at each of these factors.

Globalization. Globalization is the integration and interdependence of economic, social, cultural, and ecological facets of life, made possible by rapid advances in information technology. In his book The World Is Flat, Pulitzer Prize-winning author Thomas Friedman argues that technology is leveling the global competitive playing field, thereby making it “flat.”

Friedman identifies three eras of globalization. The first era, Globalization 1.0, lasted from 1492 to 1800. During this era, the force behind globalization was how much muscle, horsepower, wind power, or steam power a country could deploy.

The second era, Globalization 2.0, lasted from 1800 to 2000. In this era, the force behind globalization was the emergence of multinational companies; that is, companies that had their headquarters in one country but operated in several countries. In the first half of this era, globalization was driven by falling transportation costs, generated by the development of the steam engine and the railroads. In the second half, the driving force was falling telecommunications costs resulting from the telegraph, telephones, computers, satellites, fiber-optic cable, and the Internet and World Wide Web. The modern global economy began to evolve during this era.

Around the year 2000, the world entered Globalization 3.0. In this era, globalization has been driven by the convergence of ten forces that Friedman calls “flatteners.” Table 2.2 identifies these forces.

According to Friedman, each era has been characterized by a distinctive focus. The focus of Globalization 1.0 was on countries, the focus of Globalization 2.0 was on companies, and the focus of Globalization 3.0 is on groups and individuals.

As you look at Table 2.2, note that nine of Friedman’s ten flatteners directly relate to information technology (all except the fall of the Berlin Wall). These flatteners enable individuals to connect, compute, communicate, collaborate, and compete everywhere and anywhere, anytime and all the time; to access limitless amounts of information, services, and entertainment; to exchange knowledge; and to produce and sell goods and services. People and organizations can now operate without regard to geography, time, distance, or even language barriers. The bottom line? Globalization is markedly increasing competition.

These observations highlight the importance of market pressures for you. Simply put, you and the organizations you join will be competing with people and organizations from all over a flat world.
Table 2.2

Friedman’s Ten Flatteners

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<thead>
<tr>
<th>Event</th>
<th>Description</th>
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| Fall of the Berlin Wall on November 9, 1989 | Shifting the world toward free-market economies and away from centrally planned economies.  
|                                    | Led to the emergence of the European Union and early thinking about the world as a single, global market. |
| Netscape goes public on August 9, 1995 | Popularized the Internet and the World Wide Web.                             |
| Development of work-flow software   | Enabled computer applications to work with one another without manual intervention.  
|                                    | Enabled faster, closer collaboration and coordination among employees, regardless of their location. |
| Uploading                          | Empowered all Internet users to create content and put it on the Web.        |
|                                    | Led the transition from a passive approach to content to an active, participatory, collaborative approach. |
| Outsourcing                        | Contracting with an outside company to perform a specific function that your company was doing itself and then integrating their work back into your operation; for example, moving customer call centers to India. |
| Offshoring                         | Relocating an entire operation, or certain tasks, to another country; for example, moving an entire manufacturing operation to China. |
| Supply chaining                    | Technological revolution led to the creation of networks composed of companies, their suppliers, and their customers, all of which could collaborate and share information for increased efficiency. |
| Insourcing                         | Delegating operations or jobs within a business to another company that specializes in those operations; for example, Dell hires FedEx to “take over” Dell’s logistics process. |
| Informing                          | The ability to search for information, best illustrated by search engines.    |
| The Steroids                       | Technologies that amplify the other flatteners.                             |
|                                    | Enable all forms of computing and collaboration to be digital, mobile, and personal. |

Let's consider some examples of globalization. Regional agreements such as the North American Free Trade Agreement (NAFTA), which includes the United States, Canada, and Mexico, have contributed to increased world trade and increased competition. Further, the rise of India and China as economic powerhouses has increased global competition.

One important pressure that businesses in a global market must contend with is the cost of labor, which varies widely among countries. In general, labor costs are higher in developed countries like the United States and Japan than in developing countries such as China and El Salvador. Also, developed countries usually offer greater benefits, such as health care, to employees, driving the cost of doing business even higher. Therefore, many labor-intensive industries have moved their operations to countries with low labor costs. IT has made such moves much easier to implement.

However, manufacturing overseas is no longer the bargain it once was, and manufacturing in the United States is no longer as expensive. For example, manufacturing wages in China doubled between 2002 and 2008, and the value of China’s currency has steadily risen. IT’s About Business 2.2 illustrates the problems that can arise when companies outsource their manufacturing processes overseas.

**The Changing Nature of the Workforce.** The workforce, particularly in developed countries, is becoming more diversified. Increasing numbers of women, single parents, minorities, and persons with disabilities are now employed in all types of positions. IT is easing the integration of these employees into the traditional workforce. IT is also enabling people to work from home, which can be a major benefit for parents with young children and for people confronted with mobility and/or transportation issues.

**Powerful Customers.** Consumer sophistication and expectations increase as customers become more knowledgeable about the products and services they acquire. Customers can use
IT's [about business]

2.2 Sleek Audio

The CEO of Sleek Audio (www.sleek-audio.com) was frustrated with a contract factory in Dongguan, China, that assembled the majority of his company's products. Not only did he have to travel to China every few months to troubleshoot quality flaws, but manufacturing problems in the factory threatened to bankrupt his company. In one case, Sleek Audio had to discard an entire shipment of 10,000 earphones because they were improperly welded, a mistake that cost the company millions of dollars. Further, delivery delays caused by the factory's lax approach to deadlines forced Sleek Audio to spend huge amounts of money air-freighting products to the United States. As a result, the company had far too much money tied up in inventory that took months to arrive after the prototypes were developed.

Sleek Audio decided to search for a manufacturing partner that possessed the necessary tools and expertise to produce their earphones. They found one, Dynamic Innovations (www.d-inno.com), located close to their headquarters in Palmetto, Florida. One year later, Sleek Audio had a full-scale manufacturing operation that could be reached with a 15-minute car ride rather than a 24-hour flight. Each earphone costs roughly 50 percent more to produce in Florida than in China. Sleek Audio is happy to pay the premium, however, for the assurance that botched orders and shipping delays will not ruin the company. Based on enthusiastic customer response, Sleek Audio has projected 2011 to be its most profitable year ever.

When Sleek Audio was considering how the company could return manufacturing to the United States with its higher labor costs, company executives realized that the only way to make the move feasible was to minimize the role of humans on the assembly line. This process meant redesigning products to take advantage of automated tools and robots.

Sleek Audio's earphones featured plastic side panels that the Chinese factory had to weld into place by hand. In the U.S. factory, the company automated this process by replacing human labor with robots. Managers redesigned the entire product around a solid aluminum center into which robots insert the speaker. This new assembly process requires neither welding nor human hands. Moreover, as shown in Chapter 1, robots are becoming more skilled and less expensive.

Questions

1. Which of Friedman's flattens apply to Sleek Audio's decision to bring its manufacturing back to the United States? Support your answer.

2. Identify some potential negative implications of Sleek Audio's increasing reliance on robots in its manufacturing processes.


Technology Pressures. The second category of business pressures consists of those pressures related to technology. Two major technology-related pressures are technological innovation and information overload.

Technological Innovation and Obsolescence. New and improved technologies rapidly create or support substitutes for products, alternative service options, and superb quality. As a result, today’s state-of-the-art products may be obsolete tomorrow. For example, how fast are new versions of your smartphone being released? How quickly are electronic versions of books, magazines, and newspapers replacing traditional hard copy versions? These changes force businesses to keep up with consumer demands.

Consider the Apple iPad (www.apple.com/ipad). Apple released the first iPad in April 2010 and sold 3 million of the devices in 80 days. Rather than taking time to enjoy its success, Apple made its iPad2 available for sale on March 11, 2011, only 11 months later.

the Internet to find detailed information about products and services, to compare prices, and to purchase items at electronic auctions.

Organizations recognize the importance of customers and have increased their efforts to acquire and retain them. Modern firms strive to learn as much as possible about their customers to better anticipate and address their needs. This process, called customer intimacy, is an important component of customer relationship management (CRM), an organization-wide effort toward maximizing the customer experience. You will learn about CRM in Chapter 11.
**Information Overload.** The amount of information available on the Internet doubles approximately every year, and much of it is free. The Internet and other telecommunications networks are bringing a flood of information to managers. To make decisions effectively and efficiently, managers must be able to access, navigate, and utilize these vast stores of data, information, and knowledge. Information technologies, such as search engines (discussed in Chapter 6) and data mining (Chapter 12), provide valuable support in these efforts.

**Societal/Political/Legal Pressures.** The third category of business pressures includes social responsibility, government regulation/deregulation, spending for social programs, spending to protect against terrorism, and ethics. This section will explain how all of these elements affect modern businesses.

**Social Responsibility.** Social issues that affect businesses and individuals range from the state of the physical environment, to company and individual philanthropy, to education. Some corporations and individuals are willing to spend time and/or money to address various social problems. These efforts are known as organizational social responsibility or individual social responsibility.

One critical social problem is the state of the physical environment. A growing IT initiative, called green IT, is addressing some of the most pressing environmental concerns. The following example illustrates how IT is instrumental in organizational efforts to “go green.”

**Example**

**Companies Going Green Use Information Technology**

Companies are “going green,” and IT professionals are facing increasing pressures to help their companies accomplish their environmental goals. Organizations consider IT to be a natural choice to lead their sustainability efforts, because IT touches every area of an organization. In a series of interviews, several IT executives listed four areas where IT is particularly valuable.

**Facilities design and management.** Organizations are creating more sustainable work environments. Many organizations are pursuing Leadership in Energy and Environmental Design (LEED) certification from the U.S. Green Building Council, a nonprofit group that promotes the construction of environmentally friendly buildings. One impact of this development is that IT professionals are expected to help create green facilities. Consequently, IT personnel have to consider how their computing decisions have an impact on sustainable design and, in turn, how the building’s design affects the IT infrastructure. Green design influences the type of IT devices used and the locations where IT clusters personal computers, people, and servers. IT must become familiar with the metering and monitoring systems used in green buildings and the requirements of buildings’ computerized infrastructure.

**Carbon management.** As companies try to reduce their carbon footprints, they are turning to IT executives to develop the systems needed to calculate and track carbon throughout the organization and its supply chain, which can be global in scope. Therefore, IT employees need to become knowledgeable about embedded carbon and how to measure it in the company’s products and processes.

Consider, for example, application development. IT managers will have to ask whether an application will require new hardware to test and run, or how much additional server space (and thus energy) it will require—and how these issues translate into carbon output.

**International and U.S. state environmental laws.** IT executives must deal with state laws and international regulations that affect everything from the IT products they buy, to how they dispose of them, to their company’s carbon footprint. IT managers must understand environmental compliance issues so they can ask their vendors the right questions regarding specific state, national, and international environmental standards before buying, deploying, and disposing of equipment. In short, IT managers must have an equipment strategy from cradle to grave.

**Energy management.** IT executives must understand their entire organization’s energy needs. They also need to establish a good relationship with their company’s electrical utilities, for several reasons. First, energy management systems are becoming increasingly sophisticated.
To employ these systems effectively and make intelligent consumption decisions, IT personnel must familiarize themselves with the system’s complex monitors and sensors. Second, more utilities are developing an expertise in creating energy-efficient IT departments. IT managers should tap that expertise to improve their own departments’ energy performance. Third, utilities are offering incentives to commercial customers who take certain energy conservation steps, such as enabling computer power management across their networks and designing energy-efficient data centers. Finally, utilities are offering variable rate incentives depending on when companies use electricity and how much they use. These issues require IT systems that can regulate electricity use.

Continuing our discussion of social responsibility, social problems all over the world may be addressed through corporate and individual philanthropy. In some cases, questions arise as to what percentage of contributions actually goes to the intended causes and recipients and what percentage goes to the charity’s overhead. Another problem that concerns contributors is that they often exert little influence over the selection of projects their contributions will support. As you will see in IT’s About Business 2.3, the Internet can act as a facilitator of generosity.

Still another social problem that affects modern business is the digital divide. The digital divide refers to the wide gap between those who have access to information and communication technology and those who do not. This gap exists both within and among countries.

Many government and international organizations are trying to close the digital divide. As technologies develop and become less expensive, the speed at which the gap can be closed will accelerate.

A well-known project is the One Laptop per Child (OLPC) project (http://one.laptop.org). OLPC is a nonprofit association dedicated to research to develop a very inexpensive laptop—a technology that aims to revolutionize how the world can educate its children.

The first generation of inexpensive laptops appeared in 2007 with a price of $188, which was too high. The second generation of the laptop was scrapped because the price remained too high. The next generation of inexpensive laptops, a touchscreen tablet computer for schoolchildren in the developing world, uses less power than a light bulb and is unbreakable, waterproof, and half the thickness of an iPhone. This computer will be a single sheet of plastic, and have a projected price of $75.

Compliance with Government Regulations. Another major source of business pressures is government regulations regarding health, safety, environmental protection, and equal opportunity. Businesses tend to view government regulations as expensive constraints on their activities. In general, government deregulation intensifies competition.

In the wake of 9/11 and numerous corporate scandals, the U.S. government passed many new laws, including the Sarbanes-Oxley Act, the USA PATRIOT Act, the Gramm-Leach-Bliley Act, and the Health Insurance Portability and Accountability Act (HIPAA). Organizations must be in compliance with the regulations contained in these statutes. The process of becoming and remaining compliant is expensive and time consuming. In almost all cases, organizations rely on IT support to provide the necessary controls and information for compliance.

Protection against Terrorist Attacks. Since September 11, 2001, organizations have been under increased pressure to protect themselves against terrorist attacks. In addition, employees who are in the military reserves have been called up for active duty, creating personnel problems. Information technology can help protect businesses by providing security systems and possibly identifying patterns of behavior associated with terrorist activities, including cyber attacks (discussed in Chapter 4).

SECTION 2.3 Business Pressures, Organizational Responses, and Information Technology Support

2.3 The Internet Facilitates Generosity

The Internet can facilitate acts of generosity and true connection. Consider, for example, a Web site such as PatientsLikeMe (www.patientslikeme.com), or any of the thousands of message boards dedicated to infertility, cancer, and various other ailments. People use these sites and message boards to obtain information about life-and-death decisions based on volunteered information, while also receiving much-needed emotional support from strangers.

Sociologists contend that contributing to such communities helps people gain self-esteem by donating their time and experiences to people in need. People will most readily share information, followed by time, and then physical goods.

Many Web sites help concerned individuals provide goods and services to others. These hubs translate the peer-to-peer principles of sharing from the virtual world to the real world. For example, CouchSurfing (www.couchsurfing.org) has helped 2.3 million travelers find willing and free hosts throughout the world. What is the main reason that people allow strangers to sleep on their couch for free? The answer is that they give away something that has little marginal cost in exchange for the opportunity to meet people from all over the world.

Let’s look at some additional examples of Web sites that enable generosity.

- **GiftFlow (www.gifflow.org)**: GiftFlow is a virtual community where you can obtain things you need for free and find people who need the “stuff” you have to give away. GiftFlow connects community organizations, businesses, governments, and neighbors in a network of reciprocity, where they can share resources, meet one another’s needs, and coordinate their efforts to build a better world.

- **OurGoods (www.ourgoods.org)**: OurGoods enables creative people to help one another produce independent projects.

More work is accomplished in networks of shared respect and shared resources than in competitive isolation.

- **Sparked (www.sparked.com)**: Sparked is an online “microvolunteering” Web site where large and small organizations list opportunities for people looking to volunteer.

- **thredUP (www.thredup.com)**: thredUP is a Web site where parents trade children's clothing and toys.

- **Collaborative Consumption (www.collaborativeconsumption.com)**: This Web site is an online hub for discussions about the growing business of sharing, resale, reuse, and barter (with many links to Web sites engaged in these practices).

- **Kiva (www.kiva.org)**: Kiva is a nonprofit enterprise that provides a link between lenders in developed countries and entrepreneurs in developing countries. Users pledge interest-free loans rather than tax-deductible donations. Kiva directs 100 percent of the loans to borrowers.

- **DonorsChoose (www.donorschoose.org)**: DonorsChoose is an education-oriented Web site that functions entirely within the United States. Users make donations rather than loans. The Web site addresses the huge problem of underfunded public schools.

Questions

1. Discuss why people will give away their time and knowledge for free.

2. Describe the various ways in which the Internet can facilitate generosity.


An example of protection against terrorism is the Department of Homeland Security’s US-VISIT program. US-VISIT is a network of biometric-screening systems, such as fingerprint and ocular (eye) scanners, that ties into government databases and watch lists to check the identities of millions of people entering the United States. The system is now operational in more than 300 locations, including major international ports of entry by air, sea, and land.

**Ethical Issues.** Ethics relates to general standards of right and wrong. Information ethics relates specifically to standards of right and wrong in information-processing practices. Ethical issues are very important because, if handled poorly, they can damage an organization’s image and destroy its employees’ morale. The use of IT raises many ethical issues, ranging from monitoring e-mail to invading the privacy of millions of customers whose data are stored in private and public databases. Chapter 3 covers ethical issues in detail.

Clearly, then, the pressures on organizations are increasing, and organizations must be prepared to take responsive actions if they are to succeed. You will learn about these organizational responses in the next section.
Organizational Responses

Organizations are responding to the various pressures just discussed by implementing IT such as strategic systems, customer focus, make-to-order and mass customization, and e-business. This section explores each of these responses.

Strategic Systems. Strategic systems provide organizations with advantages that enable them to increase their market share and/or profits, to better negotiate with suppliers, and to prevent competitors from entering their markets. As an example, the IT department at P&G (www.pg.com) developed a virtualized environment that the company uses for product design work, product placement research, and consumer feedback studies. P&G utilizes virtual reality models to test design ideas for the next breakthroughs in products such as diapers and cosmetics. Within these “cyberworlds,” P&G can rapidly test product performance as well as consumer responses to various kinds of ingredient and packaging choices.

Customer Focus. Organizational attempts to provide superb customer service can make the difference between attracting and keeping customers and losing them to competitors. Numerous IT tools and business processes have been designed to keep customers happy. Consider Amazon, for example. When you visit Amazon’s Web site anytime after your first visit, the site welcomes you back by name and presents you with information about items that you might like, based on your previous purchases. In another example, Dell guides you through the process of buying a computer by providing information and choices that help you make an informed buying decision.

Make-to-Order and Mass Customization. Make-to-order is a strategy of producing customized (made to individual specifications) products and services. The business problem is how to manufacture customized goods efficiently and at a reasonably low cost. Part of the solution is to change manufacturing processes from mass production to mass customization. In mass production, a company produces a large quantity of identical items. In mass customization, it also produces a large quantity of items, but it customizes them to fit the needs and preferences of individual customers. Mass customization is simply an attempt to perform make-to-order on a large scale. Bodymetrics (www.bodymetrics.com) is an excellent example of mass customization involving men’s and women’s jeans.

Example

Well-fitting jeans are notoriously difficult to find. To address this problem, Bodymetrics developed a “body scanner” that scans the customer’s body, captures more than 150 measurements, and produces a digital replica of his or her size and shape. This scan is then used to provide three services: made-to-measure jeans, body-shape jeans, and online virtual try-on.

With made-to-measure jeans, the scan is used to create a pattern for the jeans, which are hand-tailored to the exact lines and contours of the customer’s body. The jeans are ready in three to six weeks, at which time the customer has a final fitting with a Bodymetrics tailor.

Based on its experience with made-to-measure jeans, Bodymetrics has identified three body shapes: straight, semicurvy, and curvy. Body-shape jeans are specifically designed to fit these different body shapes. After customers are scanned, a Bodymetrics jeans expert helps them determine their body shapes. Customers can then instantly purchase jeans matching their body shapes off the rack in the store.

The online virtual try-on allows customers who have been scanned to try on jeans virtually on their own bodies without physically trying on jeans in a dressing room. The service creates an avatar (a three-dimensional graphical representation of the customer), which has an amazing resemblance to her or him. Then, the customer can pick various styles of jeans and “virtually see” what the jeans look like on her or his avatar.

E-Business and E-Commerce. Conducting business electronically is an essential strategy for companies that are competing in today’s business environment. Electronic commerce (EC or e-commerce) describes the process of buying, selling, transferring, or exchanging products, services, or information via computer networks, including the Internet. E-business is a somewhat broader concept. In addition to the buying and selling of goods and services, e-business also refers to servicing customers, collaborating with business partners, and performing electronic transactions within an organization. Chapter 7 focuses extensively on this topic. In addition, e-commerce applications appear throughout the text.

You now have a general overview of the pressures that affect companies in today’s business environment and the responses that organizations choose to manage these pressures. To plan for the most effective responses, companies formulate strategies. In the new digital economy, these strategies rely heavily on information technology, especially strategic information systems. You examine these topics in the next section.

before you go on...

1. What are the characteristics of the modern business environment?
2. Discuss some of the pressures that characterize the modern global business environment.
3. Identify some of the organizational responses to these pressures. Are any of these responses specific to a particular pressure? If so, which ones?

2.4 Competitive Advantage and Strategic Information Systems

A competitive strategy is a statement that identifies a business’s approach to compete, its goals, and the plans and policies that will be required to carry out those goals (Porter, 1985). A strategy, in general, can apply to a desired outcome, such as gaining market share. A competitive strategy focuses on achieving a desired outcome when competitors want to prevent you from reaching your goal. Therefore, when you create a competitive strategy, you must plan your own moves, but you must also anticipate and counter your competitors’ moves.

Through its competitive strategy, an organization seeks a competitive advantage in an industry. That is, it seeks to outperform its competitors in a critical measure such as cost, quality, and time-to-market. Competitive advantage helps a company function profitably with a market and generate larger-than-average profits.

Competitive advantage is increasingly important in today’s business environment, as you will note throughout the text. In general, the core business of companies has remained the same. That is, information technologies simply offer tools that can enhance an organization’s success through its traditional sources of competitive advantage, such as low cost, excellent customer service, and superior supply chain management. Strategic information systems (SISs) provide a competitive advantage by helping an organization implement its strategic goals and improve its performance and productivity. Any information system that helps an organization gain a competitive advantage, or reduce a competitive disadvantage, qualifies as a strategic information system.

Porter’s Competitive Forces Model

The best-known framework for analyzing competitiveness is Michael Porter’s competitive forces model (Porter, 1985). Companies use Porter’s model to develop strategies to increase their competitive edge. Porter’s model also demonstrates how IT can make a company more competitive.

Porter’s model identifies five major forces that can endanger or enhance a company’s position in a given industry. Figure 2.3 highlights these forces. Although the Web has changed the
nature of competition, it has not changed Porter’s five fundamental forces. In fact, what makes these forces so valuable as analytical tools is that they have not changed for centuries. Every competitive organization, no matter how large or small, or what business it is in, is driven by these forces. This observation applies even to organizations that you might not consider competitive, such as local governments. Although local governments are not for-profit enterprises, they compete for businesses to locate in their districts, for funding from higher levels of government, for employees, and for many other things.

Significantly, Porter (2001) concludes that the overall impact of the Web is to increase competition, which generally diminishes a firm’s profitability. Let’s examine Porter’s five forces and the ways that the Web influences them.

1. **The threat of entry of new competitors.** The threat that new competitors will enter your market is high when entry is easy and low when there are significant barriers to entry. An **entry barrier** is a product or service feature that customers have learned to expect from organizations in a certain industry. A competing organization must offer this feature in order to survive in the marketplace. There are many types of entry barriers. Consider, for example, legal requirements such as admission to the bar to practice law or a license to serve liquor, where only a certain number of licenses are available.

Suppose you want to open a gasoline station. In order to compete in that industry, you would have to offer pay-at-the-pump service to your customers. Pay-at-the-pump is an IT-based barrier to entering this market because you must offer it for free. The first gas station that offered this service gained first-move advantage and established barriers to entry. This advantage did not last, however, because competitors quickly offered the same service and thus overcame the entry barrier.

For most firms, the Web increases the threat that new competitors will enter the market because it sharply reduces traditional barriers to entry, such as the need for a sales force or a physical storefront. Today, competitors frequently need only to set up a Web site. This threat of increased competition is particularly acute in industries that perform an inter-mediation role, which is a link between buyers and sellers (for example, stock brokers and travel agents), as well as in industries where the primary product or service is digital (for example, the music industry). In addition, the geographical reach of the Web enables distant competitors to compete more directly with an existing firm.

In some cases the Web increases barriers to entry. This scenario occurs primarily when customers have come to expect a nontrivial capability from their suppliers. For example,
the first company to offer Web-based package tracking gained a competitive advantage from that service. Competitors were forced to follow.

2. The bargaining power of suppliers. Supplier power is high when buyers have few choices from whom to buy and low when buyers have many choices. Therefore, organizations would rather have more potential suppliers so they will be in a stronger position to negotiate price, quality, and delivery terms.

The Internet’s impact on suppliers is mixed. On the one hand, it enables buyers to find alternative suppliers and to compare prices more easily, thereby reducing the supplier’s bargaining power. On the other hand, as companies use the Internet to integrate their supply chains, participating suppliers prosper by locking in customers.

3. The bargaining power of customers (buyers). Buyer power is high when buyers have many choices from whom to buy and low when buyers have few choices. For example, in the past, there were few locations where students could purchase textbooks (typically, one or two campus bookstores). In this situation, students had low buyer power. Today, the Web provides students with access to a multitude of potential suppliers as well as detailed information about textbooks. As a result, student buyer power has increased dramatically.

In contrast, loyalty programs reduce buyer power. As their name suggests, loyalty programs reward customers based on the amount of business they conduct with a particular organization (for example, airlines, hotels, and rental car companies). Information technology enables companies to track the activities and accounts of millions of customers, thereby reducing buyer power. That is, customers who receive “perks” from loyalty programs are less likely to do business with competitors. (Loyalty programs are associated with customer relationship management, which you will study in Chapter 11.)

4. The threat of substitute products or services. If there are many alternatives to an organization’s products or services, then the threat of substitutes is high. If there are few alternatives, then the threat is low. Today, new technologies create substitute products very rapidly. For example, customers today can purchase wireless telephones instead of land-line telephones, Internet music services instead of traditional CDs, and ethanol instead of gasoline in cars.

Information-based industries experience the greatest threat from substitutes. Any industry in which digitized information can replace material goods (for example, music, books, and software) must view the Internet as a threat because the Internet can convey this information efficiently and at low cost and high quality.

Even when there are many substitutes for their products, however, companies can create a competitive advantage by increasing switching costs. Switching costs are the costs, in money and time, of a decision to buy elsewhere. For example, contracts with smart phone providers typically include a substantial penalty for switching to another provider until the term of the contract expires (quite often, two years). This switching cost is monetary.

As another example, when you buy products from Amazon, the company develops a profile of your shopping habits and recommends products targeted to your preferences. If you switch to another online vendor, that company will need time to develop a profile of your wants and needs. In this case, the switching cost involves time rather than money.

5. The rivalry among existing firms in the industry. The threat from rivalry is high when there is intense competition among many firms in an industry. The threat is low when the competition is among fewer firms and is not as intense.

In the past, proprietary information systems—systems that belong exclusively to a single organization—have provided strategic advantage to firms in highly competitive industries. Today, however, the visibility of Internet applications on the Web makes proprietary systems more difficult to keep secret. In simple terms, when I see my competitor’s new system online, I will rapidly match its features in order to remain competitive. The result is fewer differences among competitors, which leads to more intense competition in an industry.

To understand this concept, consider the highly competitive grocery industry, where Walmart, Kroger, Safeway, and other companies compete essentially on price. Some of these companies have IT-enabled loyalty programs in which customers receive discounts and the store gains valuable business intelligence on customers’ buying preferences. Stores
use this business intelligence in their marketing and promotional campaigns. (You will learn about business intelligence in Chapter 12.)

Grocery stores are also experimenting with wireless technologies such as radio-frequency identification (RFID, discussed in Chapter 8) to speed the checkout process, track customers through the store, and notify customers of discounts as they pass by certain products. Grocery companies also use IT to tightly integrate their supply chains for maximum efficiency and thus reduce prices for shoppers.

Competition also is being affected by the extremely low variable cost of digital products. That is, once a digital product has been developed, the cost of producing additional “units” approaches zero. Consider the music industry as an example. When artists record music, their songs are captured in digital format. Physical products, such as CDs or DVDs of the songs for sale in music stores, involve costs. The costs of a physical distribution channel are much higher than those involved in delivering the songs digitally over the Internet.

In fact, in the future companies might give away some products for free. For example, some analysts predict that commissions for online stock trading will approach zero because investors can search the Internet for information to make their own decisions regarding buying and selling stocks. At that point, consumers will no longer need brokers to give them information that they can obtain themselves, virtually for free.

**Porter’s Value Chain Model**

Organizations use the Porter competitive forces model to design general strategies. To identify specific activities where they can use competitive strategies for greatest impact, they use his value chain model (1985). The value chain model also identifies points where an organization can use information technology to achieve competitive advantage (see Figure 2.4).

![Figure 2.4 Porter’s Value Chain Model](image-url)

<table>
<thead>
<tr>
<th>PRIMARY ACTIVITIES</th>
<th>SUPPORT ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration and management</td>
<td>Legal, accounting, finance management</td>
</tr>
<tr>
<td>Human resource management</td>
<td>Personnel, recruiting, training, career development</td>
</tr>
<tr>
<td>Product and technology development</td>
<td>Product and process design, production engineering, research and development</td>
</tr>
<tr>
<td>Procurement</td>
<td>Supplier management, funding, subcontracting, specification</td>
</tr>
<tr>
<td>Inbound logistics</td>
<td>Operations</td>
</tr>
<tr>
<td>Quality control; receiving; raw materials control; supply schedules</td>
<td>Manufacturing; packaging; production control; quality control; maintenance</td>
</tr>
<tr>
<td>Automated warehousing systems</td>
<td>Computer-controlled machining systems; computer-aided flexible manufacturing</td>
</tr>
<tr>
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<td>Automated warehousing systems</td>
<td>Computer-controlled machining systems; computer-aided flexible manufacturing</td>
</tr>
</tbody>
</table>

**FIGURE 2.4** Porter’s Value Chain Model.
According to Porter's value chain model, the activities conducted in any organization can be divided into two categories: primary activities and support activities. **Primary activities** relate to the production and distribution of the firm’s products and services. These activities create value for which customers are willing to pay. The primary activities are buttressed by **support activities**. Unlike primary activities, support activities do not add value directly to the firm’s products or services. Rather, as their name suggests, they contribute to the firm’s competitive advantage by supporting the primary activities.

Next, you will see examples of primary and support activities in the value chain of a manufacturing company. Keep in mind that other types of firms, such as transportation, health care, education, retail, and others, have different value chains. The key point is that every organization has a value chain: a sequence of activities through which the organization’s inputs, whatever they are, are transformed into more valuable outputs, whatever they are.

In a manufacturing company, primary activities involve purchasing materials, processing the materials into products, and delivering the products to customers. Companies typically perform five primary activities in the following sequence:

1. **Inbound logistics (inputs)**
2. **Operations (manufacturing and testing)**
3. **Outbound logistics (storage and distribution)**
4. **Marketing and sales**
5. **Services**

As work progresses in this sequence, value is added to the product in each activity. Specifically, the following steps occur:

1. The incoming materials are processed (in receiving, storage, and so on) in activities called **inbound logistics**.
2. The materials are used in operations, where value is added by turning raw materials into products.
3. These products are prepared for delivery (packaging, storing, and shipping) in the outbound logistics activities.
4. Marketing and sales sell the products to customers, increasing product value by creating demand for the company’s products.
5. Finally, the company performs after-sales service for the customer, such as warranty service or upgrade notification, adding further value.

As noted above, the primary activities are buttressed by support activities. Support activities consist of:

1. The firm’s infrastructure (accounting, finance, management)
2. Human resources management
3. Product and technology development (R & D)
4. Procurement

Each support activity can be applied to any or all of the primary activities. In addition, the support activities can also support one another.

A firm’s value chain is part of a larger stream of activities, which Porter calls a **value system**. A value system, or an **industry value chain**, includes the suppliers that provide the inputs necessary to the firm along with their value chains. After the firm creates products, these products pass through the value chains of distributors (which also have their own value chains), all the way to the customers. All parts of these chains are included in the value system. To achieve and sustain a competitive advantage, and to support that advantage with information technologies, a firm must understand every component of this value system.
Strategies for Competitive Advantage

Organizations continually try to develop strategies to counter the five competitive forces identified by Porter. You will learn about five of those strategies here. Before we go into specifics, however, it is important to note that an organization’s choice of strategy involves trade-offs. For example, a firm that concentrates only on cost leadership might not have the resources available for research and development, leaving the firm unable to innovate. As another example, a company that invests in customer happiness (customer-orientation strategy) will experience increased costs.

Companies must select a strategy and then stay with it, because a confused strategy cannot succeed. This selection, in turn, decides how a company will utilize its information systems. A new information system that can improve customer service but will increase costs slightly will be welcomed at a high-end retailer such as Nordstrom’s, but not at a discount store like Walmart. The following list presents the most commonly used strategies below. Figure 2.5 provides an overview of these strategies.

1. **Cost leadership strategy.** Produce products and/or services at the lowest cost in the industry. An example is Walmart’s automatic inventory replenishment system, which enables Walmart to reduce inventory storage requirements. As a result, Walmart stores use floor space only to sell products, and not to store them, thereby reducing inventory costs.

2. **Differentiation strategy.** Offer different products, services, or product features than your competitors. Southwest Airlines, for example, has differentiated itself as a low-cost, short-haul, express airline. This has proved to be a winning strategy for competing in the highly competitive airline industry. Also, Dell has differentiated itself in the personal computer market through its mass-customization strategy.

3. **Innovation strategy.** Introduce new products and services, add new features to existing products and services, or develop new ways to produce them. A classic example is the introduction of automated teller machines (ATMs) by Citibank. The convenience and cost-cutting features of this innovation gave Citibank a huge advantage over its competitors. Like many innovative products, the ATM changed the nature of competition in the banking industry. Today, an ATM is a competitive necessity for any bank.
4. **Operational effectiveness strategy.** Improve the manner in which internal business processes are executed so that a firm performs these activities better than its rivals. Such improvements increase quality, productivity, and employee and customer satisfaction while decreasing time to market.

5. **Customer-orientation strategy.** Concentrate on making customers happy. Web-based systems are particularly effective in this area because they can provide a personalized, one-to-one relationship with each customer.

### before you go on...

1. What are strategic information systems?
2. According to Porter, what are the five forces that could endanger a firm’s position in its industry or marketplaces?
3. Describe Porter’s value chain model. Differentiate between Porter’s competitive forces model and his value chain model.
4. What strategies can companies use to gain competitive advantage?

### 2.5 Business–Information Technology Alignment

The “holy grail” of organizations is business–information technology alignment, or strategic alignment (which we will call simply **alignment**). **Business–information technology alignment** is the tight integration of the IT function with the strategy, mission, and goals of the organization. That is, the IT function directly supports the business objectives of the organization.

There are six characteristics of excellent alignment:

- Organizations view IT as an engine of innovation that continually transforms the business, often creating new revenue streams.
- Organizations view their internal and external customers and their customer service function as supremely important.
- Organizations rotate business and IT professionals across departments and job functions.
- Organizations provide overarching goals that are completely clear to each IT and business employee.
- Organizations ensure that IT employees understand how the company makes (or loses) money.
- Organizations create a vibrant and inclusive company culture.

Unfortunately, many organizations fail to achieve this type of close alignment. In fact, according to a McKinsey & Company survey on IT strategy and spending, only 16 percent of the IT and business executives who participated agreed that their organization had adequate alignment between IT and the business. Given the importance of business–IT alignment, why do so many organizations fail to implement this policy? The major reasons are:

- Business managers and IT managers have different objectives.
- The business and IT departments are ignorant of the other group’s expertise.
- A lack of communication.

Put simply, business executives know little about information technology, and IT executives understand the technology but do not understand the real needs of the business.
The good news is that some organizations “get it right.” IT’s About Business 2.4 illustrates business–IT alignment at two companies: Progressive and Zappos. In fact, both companies maintain that business and IT are virtually indistinguishable in their strategy and operations.

before you go on...

1. What is business–IT alignment?
2. Give examples of business–IT alignment at your university, regarding student systems. (Hint: What are the “business” goals of your university with regard to student registration, fee payment, grade posting, etc.?)

IT’s [about business] 2.4

Progressive

Progressive (www.progressive.com) markets itself as an insurance provider that offers choices to customers. Its mission is to make insurance easy to shop for, buy, and own. The insurer uses highly automated underwriting software, and it presents data to customers in an easily understandable way.

The company’s exclusive IT-enabled online Name Your Price application allows customers to choose the price they would like to pay for insurance and then see the coverage they can buy for that price. After entering basic car and driver information, shoppers are offered a customized insurance package that includes the limits and deductibles available within that price range. Shoppers can also manipulate an online dial to change various options, and the application instantly responds with information about how such changes will affect the price. Progressive’s Web site also allows customers to comparison-shop to find out what Allstate, State Farm, and other competitors charge for the same coverage.

To provide this transparency for its customers, Progressive developed software that allows the company to quickly extract pricing data filed with government regulators. The software allows Progressive managers to read a state regulatory filing, spot the key data, and determine a rating algorithm for competitors’ rates.

Zappos

Zappos (www.zappos.com) is a major manufacturer of clothing, beauty aids, and accessories. The company’s primary business platform is an enterprise data warehouse (discussed in Chapter 5) that essentially contains all of the company’s data—Web site traffic, marketing data, merchandising analytics, and so on. This system handles the new business as Zappos expands its product and service offerings. For example, when Zappos expanded into selling luggage, it had to set up a special place at its distribution center to store the new items, because suitcases take up much more room than do shoes. On the IT side, the company needed to reconfigure its data warehouse to reflect that change.

As another example, suppose that a customer goes to zappos.com for a pair of red Clarks sandals in size 8. The customer can see all of the Clarks sandals available in stock. If the customer goes to Clarks.com, he or she will be able to find all of the same information just as quickly. The reason for this is that a Zappos unit called Powered by Zappos built and runs the Clarks Web site. Launched in 2009, Powered by Zappos is a revenue-producing business application created by the Zappos IT department.

Questions

1. Consider the cases of Progressive and Zappos. What does it mean that the business strategy and information technology go hand-in-hand? (That is, neither comes before the other.)
2. Provide specific examples of problems that could occur at Progressive and Zappos if the firms’ business strategy and information technology are not aligned.

For all Majors

All of the functional areas of any organization are literally composed of a variety of business processes. Regardless of your major, you will be involved in a variety of business processes from your first day on the job. Some of these processes you will do by yourself, some will involve only your group or department, and others will involve several (or all) of the organization’s functional areas.

It is important for you to be able to visualize processes, understand the inputs and outputs of each process, and identify the “customer” of each process. These capabilities will enable you to make the organization’s business processes more efficient and effective. This task generally involves incorporating information technology in the process. It is also important for you to appreciate how each process fits into your organization’s strategy.

All functional areas in any organization must work together in an integrated fashion in order for the firm to respond adequately to business pressures. These responses typically require each functional area to utilize a variety of information systems. In today’s competitive global marketplace, the timeliness and accuracy of these responses is even more critical.

Closely following this discussion, all functional areas must work together for the organization to gain competitive advantage in its marketplace. Again, the functional areas use a variety of strategic information systems to achieve this goal.

You have seen why companies must be concerned with strategic advantage. But why is this chapter so important for you? There are several reasons. First, the business pressures you have learned about have an impact on your organization, but they also affect you as an individual. So, it is critical that you understand how information systems can help you, and eventually your organization, respond to these pressures.

In addition, achieving competitive advantage is essential for your organization’s survival. In many cases, you, your team, and all your colleagues will be responsible for creating a competitive advantage. Therefore, having general knowledge about strategy and about how information systems affect the organization’s strategy and competitive position will help you in your career.

You also need a basic knowledge of your organization’s strategy, mission, and goals, as well as its business problems and how it makes (or loses) money. You now know how to analyze your organization’s strategy and value chain, as well as the strategies and value chains of your competitors. You also have acquired a general knowledge of how information technology contributes to organizational strategy. This knowledge will help you to do your job better, to be promoted more quickly, and to contribute significantly to the success of your organization.

Summary

1. Understand the concept of business processes, and provide examples of business processes in the functional areas of an organization.

A business process is an ongoing collection of related activities that produce a product or a service of value to the organization, its business partners, and/or its customers. Examples of business processes in the functional areas are managing accounts payable, managing accounts receivable, managing post-sale customer follow-up, managing bills of materials, managing manufacturing change orders, applying disability policies, hiring employees, training staff and computer users, and applying Internet use policy.

2. Differentiate between the terms business process reengineering and business process management.

Business process reengineering is a radical redesign of an organization’s business processes that is intended to improve the efficiency and effectiveness of these processes. The key to BPR is
An example of a market pressure is powerful customers. Customer relationship management is an effective IT response that helps companies achieve customer intimacy.

Technology pressures: An example of a technology pressure is information overload. Search engines and business intelligence applications enable managers to access, navigate, and utilize vast amounts of information.

Societal/political/legal pressures: An example of a societal/political/legal pressure is social responsibility, such as the state of the physical environment. Green IT is one response that is intended to improve the environment.

3. List and provide examples of the three types of business pressures, and describe one IT response to each.

- Market pressures: An example of a market pressure is powerful customers. Customer relationship management is an effective IT response that helps companies achieve customer intimacy.
- Technology pressures: An example of a technology pressure is information overload. Search engines and business intelligence applications enable managers to access, navigate, and utilize vast amounts of information.
- Societal/political/legal pressures: An example of a societal/political/legal pressure is social responsibility, such as the state of the physical environment. Green IT is one response that is intended to improve the environment.

4. Identify the five competitive forces described by Porter, and explain how the Web has an impact on each one.

Porter’s five competitive forces:

- The threat of entry of new competitors: For most firms, the Web increases the threat that new competitors will enter the market by reducing traditional barriers to entry. Frequently, competitors need only to set up a Web site to enter a market. The Web can also increase barriers to entry, as when customers come to expect a nontrivial capability from their suppliers.
- The bargaining power of suppliers: The Web enables buyers to find alternative suppliers and to compare prices more easily, thereby reducing suppliers’ bargaining power. From a different perspective, as companies use the Web to integrate their supply chains, participating suppliers can lock in customers, thereby increasing suppliers’ bargaining power.
- The bargaining power of customers (buyers): The Web provides customers with incredible amounts of choices for products, as well as information about those choices. As a result, the Web increases buyer power. However, companies can implement loyalty programs in which they use the Web to monitor the activities of millions of customers. Such programs reduce buyer power.
- The threat of substitute products or services: New technologies create substitute products very rapidly, and the Web makes information about these products available almost instantly. As a result, industries (particularly information-based industries) are in great danger from substitutes (e.g., music, books, newspapers, magazines, software). However, the Web also can enable a company to build in switching costs, so that it will cost customers time and/or money to switch from your company to a competitor.
- The rivalry among existing firms in the industry: In the past, proprietary information systems provided strategic advantage for firms in highly competitive industries. The visibility of Internet applications on the Web makes proprietary systems more difficult to keep secret. Therefore, the Web makes strategic advantage more short-lived.

5. Describe the strategies that organizations typically adopt to counter the five competitive forces and achieve competitive advantage.

The five strategies are as follows:

- Cost leadership strategy—produce products and/or services at the lowest cost in the industry;
- Differentiation strategy—offer different products, services, or product features;
- Innovation strategy—introduce new products and services, put new features in existing products and services, or develop new ways to produce them;
- Operational effectiveness strategy—improve the manner in which internal business processes are executed so that a firm performs similar activities better than its rivals;
- Customer-orientation strategy—concentrate on making customers happy.
6. Define business–information technology alignment, and describe the characteristics of effective alignment.

Business–IT alignment is the tight integration of the IT function with the strategy, mission, and goals of the organization. There are six characteristics of effective alignment:

- Organizations view IT as an engine of innovation that continually transforms the business.
- Organizations view customers and customer service as supremely important.
- Organizations rotate business and IT professionals across departments and job functions.
- Organizations provide clear, overarching goals for all employees.
- Organizations ensure that IT employees understand how the company makes (or loses) money.
- Organizations create a vibrant and inclusive company culture.

[ Chapter Glossary ]

**business environment** The combination of social, legal, economic, physical, and political factors in which businesses conduct their operations.

**business–information technology alignment** The tight integration of the IT function with the strategy, mission, and goals of the organization.

**business process** A collection of related activities that produce a product or a service of value to the organization, its business partners, and/or its customers.

**business process management (BPM)** A management technique that includes methods and tools to support the design, analysis, implementation, management, and optimization of business processes.

**business process reengineering (BPR)** A radical redesign of a business process that improves its efficiency and effectiveness, often by beginning with a “clean sheet” (from scratch).

**competitive advantage** An advantage over competitors in some measure such as cost, quality, or speed; leads to control of a market and to larger-than-average profits.

**competitive forces model** A business framework devised by Michael Porter that analyzes competitiveness by recognizing five major forces that could endanger a company’s position.

**cross-functional business process** A process in which no single functional area is responsible for its completion; multiple functional areas collaborate to perform the function.

**digital divide** The gap between those who have access to information and communications technology and those who do not.

**entry barrier** Product or service feature that customers expect from organizations in a certain industry; an organization trying to enter this market must provide this product or service at a minimum to be able to compete.

**globalization** The integration and interdependence of economic, social, cultural, and ecological facets of life, enabled by rapid advances in information technology.

**individual social responsibility** See organizational social responsibility.

**make-to-order** The strategy of producing customized products and services.

**mass customization** A production process in which items are produced in large quantities but are customized to fit the desires of each customer.

**organizational social responsibility** (also individual social responsibility) Efforts by organizations to solve various social problems.

**primary activities** Those business activities related to the production and distribution of the firm’s products and services, thus creating value.

**strategic information systems (SISs)** Systems that help an organization gain a competitive advantage by supporting its strategic goals and/or increasing performance and productivity.

**support activities** Business activities that do not add value directly to a firm’s product or service under consideration but support the primary activities that do add value.

**value chain model** Model that shows the primary activities that sequentially add value to the profit margin; also shows the support activities.

**value system** Includes the producers, suppliers, distributors, and buyers, all with their value chains.

[ Discussion Questions ]

1. Consider the student registration business process at your university:
   - Describe the steps necessary for you to register for your classes each semester.

2. Why is it so difficult for an organization to actually implement business process reengineering?
3. Explain why IT is both a business pressure and an enabler of response activities that counter business pressures.

4. What does a flat world mean to you in your choice of a major? In your choice of a career? Will you have to be a “lifelong learner”? Why or why not?

5. What might the impact of a flat world be on your standard of living?

6. Is IT a strategic weapon or a survival tool? Discuss.

7. Why might it be difficult to justify a strategic information system?

8. Describe the five forces in Porter’s competitive forces model, and explain how the Internet has affected each one.

9. Describe Porter’s value chain model. What is the relationship between the competitive forces model and the value chain model?

10. Discuss the idea that an information system by itself can rarely provide a sustainable competitive advantage.

[ Problem-Solving Activities ]

1. Surf the Internet for information about the Department of Homeland Security. Examine the available information, and comment on the role of information technologies in the department.


3. Access www.go4customer.com. What does this company do and where is it located? Who are its customers? Which of Friedman’s flatteners does this company fit? Provide examples of how a U.S. company would use its services.

4. Enter Walmart China (www.walmartchina.com/english/index.htm). How does Walmart China differ from your local Walmart (consider products, prices, services, etc.)? Describe these differences.

5. Apply Porter’s value chain model to Costco (www.costco.com). What is Costco’s competitive strategy? Who are Costco’s major competitors? Describe Costco’s business model. Describe the tasks that Costco must accomplish for each primary value chain activity. How would Costco’s information systems contribute to Costco’s competitive strategy, given the nature of its business?

6. Apply Porter’s value chain model to Dell (www.dell.com). What is Dell’s competitive strategy? Who are Dell’s major competitors? Describe Dell’s business model. Describe the tasks that Dell must accomplish for each primary value chain activity. How would Dell’s information systems contribute to Costco’s competitive strategy, given the nature of its business?

7. The market for optical copiers is shrinking rapidly. It is expected that by 2010 as much as 90 percent of all duplicated documents will be done on computer printers. Can a company such as Xerox Corporation survive?
   b. Identify all the business pressures on Xerox.
   d. Identify the role of IT as a contributor to the business technology pressures (for example, obsolescence).
   e. Identify the role of IT as a facilitator of Xerox’s critical response activities.

[ Team Assignments ]

1. (a) As a class, describe the business pressures on your university. Each group will then create an online group for studying one of these business pressures, and how your university uses IT to respond to this pressure. Each member of the group must have a Yahoo! e-mail account (free). Form your groups in Google Groups (http://groups.google.com).

2. Divide the class into teams. Each team will select a country’s government and visit its official Web site (for example, try the United States, Australia, New Zealand, Singapore, Norway, Canada, the United Kingdom, the Netherlands, Denmark, Germany, and France). For example, the official Web portal for the U.S. government is www.firstgov.gov. Review and compare the services offered by each country. How does the United States stack up? Are you surprised at the number of services offered by countries through Web sites? Which country offers the most services? The least?

[ Closing Case Two Financial Giants Merge ]

The Problem

On December 31, 2008, two giant financial institutions announced a merger, as Wells Fargo (www.wellsfargo.com) completed its $15 billion acquisition of Wachovia (www.wachovia.com). The combined company became the second-largest bank in the United States, with 2008 sales of $1.3 trillion, 300,000 employees, 10,400 branch and office locations, and 12,300 ATMs in North America. For the merger to be successful, the two companies had to merge their people and technology as well as their financial assets.
In particular, from an IT perspective, the merger required a major network integration to combine both banks’ operations. When two giant financial firms merge, they have to consider more than just integrating their financial cultures. They have to consider their IT cultures as well. For example, what happens if one bank maintains a highly decentralized IT approach in which each individual business unit has its own IT policies, and the other bank has a centralized approach?

In addition, financial institutions use IT to strategically differentiate themselves from their competitors. As one financial consultant explained, “Banks have their brands, and those brands are delivered by their IT structure.” Thus, Wells Fargo and Wachovia faced the added challenge of melding their distinctive identities into a new identity.

The Solution

The major initiative of the entire IT integration was to select and implement the best existing application in a business area, regardless of which bank already used that application. In this way the newly formed bank focused on business outcomes rather than technology. The overall goal of the transition team was customer retention. That is, customers were to experience no disruption in services during the merger process.

The transition team realized that they were integrating disparate IT teams, in which every team member had his or her individual preferences regarding the systems they were using. The challenge was to get all employees to focus on the overall goal, which was to evaluate which systems would best serve the new bank’s customers.

The integration process was intricate because the two companies were using more than 4,000 IT systems. The transition team’s strategy was to choose one business process, select the most appropriate application for that process, and then make certain that all of the employees who were involved in that process knew how to use that application. Consider the mortgage lending and online banking business processes.

- The Wells Fargo mortgage lending application was superior in scalability, meaning that it could accommodate the increased processing needs generated by the merger. At the time of the merger, Wells Fargo was struggling to fill the demands created by the mortgage refinancing boom. In fact, the bank added 10,000 employees just to handle those orders. The Wells Fargo application was better at handling that demand and conducting secure transactions than was the Wachovia application, so the transition team used the former.
- Wells Fargo’s online banking applications were also found to be superior to Wachovia’s. Wells Fargo’s customers constantly commented on how easy these applications were to use and how intuitive the interface was.

To ensure that employees remained as productive as possible during the merger, Wells Fargo provided ongoing support for nearly all of the 4,000 applications that the two banks used before the merger. A group from the transition team oversaw the transition to new, best-of-breed applications.

At Wells Fargo, the focus is on providing a level of service that today’s customers demand. The bank, with more than 48 million customers, has made mobility a key component of its business. For example, it now offers banking services through mobile channels: text banking, a mobile browser, and specialized smart phone applications. Nearly 25 percent of the customers who bank online also use mobile banking to check balances, make transfers, and pay bills. Further, customers who use text banking send about two dozen messages per month.

Also, Wells Fargo is combining physical and virtual tools. For instance, customers can have ATM receipts sent to their e-mail addresses rather than on paper.

The Results

The bottom line? In 2010, Wells Fargo posted a second-quarter profit of $2.5 billion, a third-quarter profit of $3.34 billion, and a fourth-quarter profit of $3.4 billion.

Questions

1. Provide two specific examples of why it was so important for Wells Fargo and Wachovia to integrate their information systems to ensure the success of the merger.
2. Provide two specific examples of difficulties the companies experienced in integrating their information systems.


[ Interactive Case ]

Supporting a Customer-Oriented Strategy at Ruby’s Club

Go to the Ruby’s Club link at the Student Companion web site or WileyPLUS for information about your current internship assignment. Your assignment will entail outlining how Ruby’s Member’s site can best support their customer-oriented strategy and creating a presentation for the club’s managers.