

CHAPTER TWO OUTLINE

STUDENT LEARNING OUTCOMES

1. Define supply chain management (SCM) systems and describe their strategic and competitive opportunities.
2. Define customer relationship management (CRM) systems and describe their strategic and competitive opportunities.
3. Define e-collaboration and describe its strategic and competitive opportunities.
4. Discuss the impact IT culture has on technology choices and their implementations within an organization.
5. Explain the significance of enterprise resource planning (ERP) software as the integration of functional software systems.

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WEB SUPPORT

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- Demographics
- Bureau of Labor and Statistics
- Gathering competitive intelligence
- Meta data
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- Small Business Administration
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SUPPORTING MODULES

XLM/B The World Wide Web and the Internet

Module B is a fast-paced tour of the Web and Internet. The first focus is on learning just enough about the Web to be an effective surfer. Then, explore the technology infrastructure behind the Web that makes it all possible. Finally, conclude with an overview of the options for connecting to the Web and the emerging life of Web 2.0.

CHAPTER TWO

Major Business Initiatives

Gaining Competitive Advantage with IT

OPENING CASE STUDY: A SMACK—A GROUP OF JELLYFISH OR SOCIAL COMMERCE SHOPPING?

A *smack* is actually both. It is the term for a group of jellyfish (just like a group of crows is called a *murder*), and it's also the term Mark McGuire uses to describe how customers shop on his social commerce site, that is, *smack shopping*. Mark is the CEO of Jellyfish.com (www.jellyfish.com), a Web site that provides for collaborative shopping by groups of customers to get the best deals.

Jellyfish is actually a reverse auction site. A seller of a given product—say 100 Apple iPods—posts those items for sale on Jellyfish with a zero percent discount at the beginning of the auction. As the auction continues, the discount begins to go up. As a buyer, you can choose to buy at any time at a given discount percentage. The longer you wait, the higher the percentage discount you receive. But be careful, because none of the buyers ever knows how many of the iPods the seller has. So, if you wait until the percentage discount rises to 75, the seller may have already sold his or her lot for a discount rate of 50 percent or less.

And 50 percent isn't that unreasonable. Smack shoppers have purchased Apple iPods for 41 percent off, Microsoft Xboxes for 46 percent off, and TiVo DVRs for a 23 percent discount.

Jellyfish supports other collaborative and social networking tools that also benefit buyers. A live chat board lets buyers interact with each other. Smacks (groups) of buyers on the chat board will attempt to persuade other buyers from buying

too early, letting everyone profit from rising discounts. As you might guess, many of these buyers then resell the items on other traditional auction sites such as eBay.

The whole concept of *social commerce shopping* seems to be catching on. Jellyfish has more than 100,000 participants (both buyers and sellers) on a monthly basis. In the first five months of operation, the users of Jellyfish rose by a factor of five. As Mark describes it, smacking is turning marketing into entertainment. "We call it the Internet's first live shopping game show," says Mark.

Social commerce shopping certainly doesn't represent any new advance in technology, but rather a new and innovative way of *using* technology to reach customers. Customers in this case are both sellers (wanting to unload a lot of product) and buyers (seeking the best deals). In this chapter, we'll look at how organizations can use technology in support of major business initiatives such as supply chain management (for companies providing products and services), customer relationship management (for companies wanting to know everything about their customers), and e-collaboration.¹

Questions

1. Do you use a live auction site like eBay? How does it differ from Jellyfish?
2. Visit Jellyfish.com. What is the process of becoming a participant?
3. What sort of products would be best suited for a reverse auction format?

Introduction

In almost any study you care to read, research shows that as competition intensifies in an industry, companies must develop innovative products, services, and business processes to compete and survive. Further, most of these studies point to the use of information technology as a way to help companies separate from the competition and develop a significant competitive advantage. In Chapter 1, we explored how a company can use tools such as Porter's Five Forces Model and Porter's three generic strategies, top-line versus bottom-line initiatives, and the run-grow-transform framework to develop business strategy to address the ever-intensifying competitive environment. In this chapter, we focus on three of the most important IT implementations of business processes to support those business strategies:

- Supply chain management
- Customer relationship management
- E-collaboration

As a company implements one of more of these IT-based systems, it must carefully consider its own internal IT culture and, just as important, how it will integrate these systems throughout the company using *enterprise resource planning* software. After examining the three IT implementations above, we'll also explore IT culture and enterprise resource planning software.

Supply Chain Management

LEARNING OUTCOME 1

Dell Computer's supply chain management system is the envy of the industry. Its direct model gives the company a huge advantage over any competitor still using a traditional model of selling through retailers. Traditional computer manufacturers build computers and ship them to wholesalers, distributors, or directly to retailers. The computers sit in a warehouse or on the retailers' shelves until somebody comes in and buys them. If you took a look at a typical distribution chain, you would see that there are too many computers in inventory. A *distribution chain* is simply the path a product or service follows from the originator of the product or service to the end consumer. Holding onto inventory in a distribution chain costs money, because whoever owns the inventory has to pay for the operation of a warehouse or stores while waiting for someone to buy it. In the retailing of computers, not only does excess inventory cost money to hold, but the computers themselves can become obsolete, requiring retailers to slash prices in an effort to sell older models before the newer ones arrive. Many such retailers use sites like Jellyfish.com (from the opening case study) to dump old and obsolete inventory.

Dell's model is different. Dell sells computers directly from its Web site so there is no inventory in its distribution chain. Dell has enhanced its *supply chain* as well. It uses i2 supply chain management software to send orders for parts to suppliers every two hours, enabling it to manufacture and deliver exactly what its customers want with little or no inventory in its supply chain.² The differences between Dell's "sell, source, and ship" model and the traditional "buy, hold, and sell" model are illustrated in Figure 2.1.

For a company the size of General Motors, with operations all over the world and tens of thousands of suppliers, supply chain management and IT-based supply chain management systems are critical necessities to ensure the smooth flow of parts to GM factories. *Supply chain management (SCM)* tracks inventory and information among business processes and across companies. A *supply chain management (SCM) system* is an IT

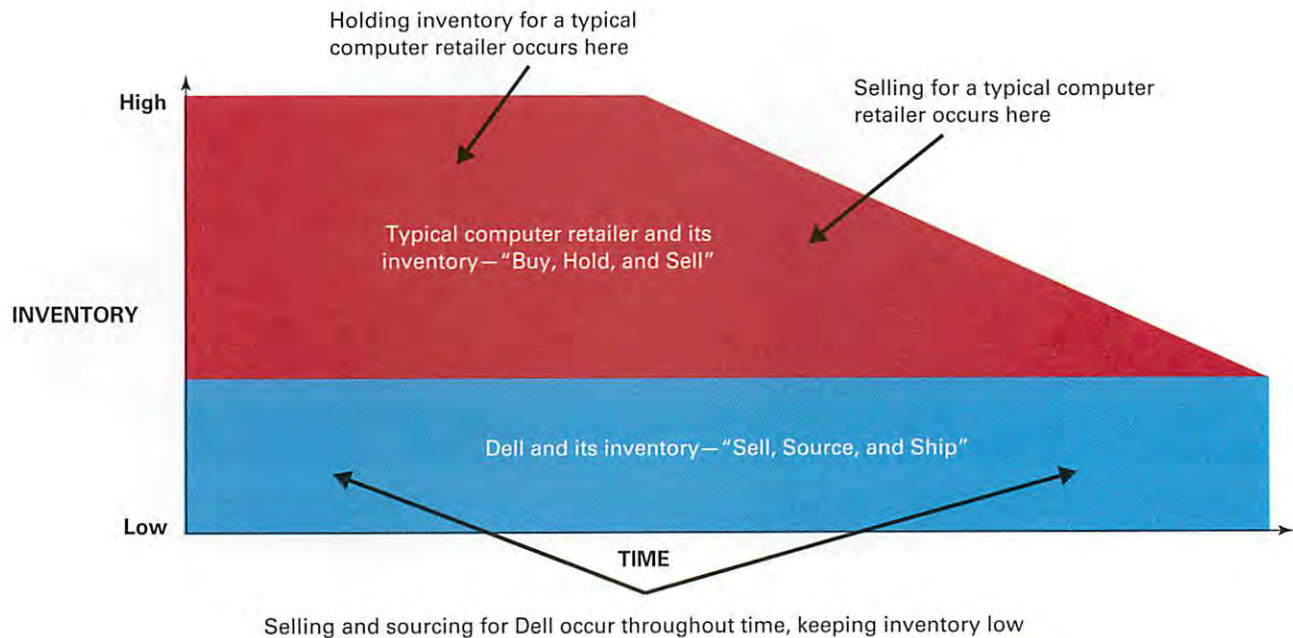


Figure 2.1

Buy-Hold-Sell versus
Sell-Source-Ship

system that supports supply chain management activities by automating the tracking of inventory and information among business processes and across companies.

Most large manufacturing companies use *just-in-time* manufacturing processes, which ensure that the right parts are available as products in process move down the assembly line. *Just-in-time (JIT)* is a method for producing or delivering a product or service just at the time the customer wants it. For retailers, such as Target, this means that products customers want to buy are on the shelves when the customers walk by. Supply chain management systems also focus on making sure that the right number of parts or products are available, not too many and not too few. Too many products on hand means that too much money is tied up in inventory and also increases the risk of obsolescence. Too few products on hand is not a good thing either, because it could force an assembly line to shut down or, in the case of retailers, lose sales because an item is not in stock when a customer is ready to buy.

Consider snow blowers in Michigan around the month of November. If a store like Home Depot has too many, it may not be able to sell them all early in the snowy season when most customers buy them. Snow blowers are large and bulky and also cost a considerable sum of money. Having too many is an expensive proposition for Home Depot. Likewise, if Home Depot has too few snow blowers on hand and runs out early in the snowy season, a customer looking for a snow blower won't wait for new Home Depot inventory; instead, the customer will go to another store.

Companies with suppliers around the globe often employ inter-modal transportation. *Inter-modal transportation* is the use of multiple channels of transportation—railway, truck, boat, and so on—to move products from origin to destination (see Figure 2.2 on the next page). This further complicates the logistics of SCM because companies are required to carefully schedule, monitor, and track parts and supplies as they move among different modes of transportation. Consider that a given train may be carrying 50 or more truck trailers that will each eventually be connected to different trucks. Even purely domestic supply chains often employ inter-modal transportation such as railway lines and carrier trucks.

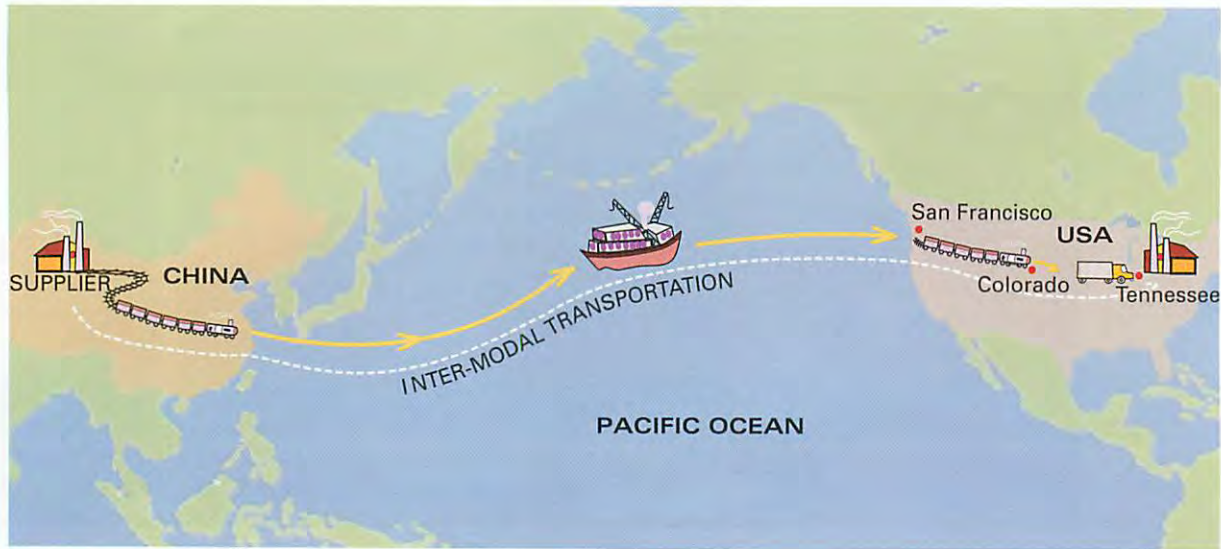


Figure 2.2

Inter-Modal Transportation

STRATEGIC AND COMPETITIVE OPPORTUNITIES WITH SCM

Overall, a tight supply chain management system focuses on squeezing every penny possible out of the supply chain process. Thus, the primary focus of supply chain management may be described in terms of our discussion in Chapter 1 as

- Overall cost leadership (from Porter's three generic strategies)
- Bottom-line initiative (cost reduction)
- Running the organization (run-grow-transform framework)

Of course, lower costs in the supply chain lead to lower prices to consumers, which in turn can increase market share and top-line revenue. A well-designed supply chain management system helps your organization by optimizing the following specific supply chain activities:

- *Fulfillment*—ensuring that the right quantity of parts for production or products for sale arrive at the right time.
- *Logistics*—keeping the cost of transporting materials as low as possible consistent with safe and reliable delivery.
- *Production*—ensuring production lines function smoothly because high-quality parts are available when needed.
- *Revenue and profit*—ensuring no sales are lost because shelves are empty.
- *Cost and price*—keeping the cost of purchased parts and prices of products at acceptable levels.

Cooperation among supply chain partners for mutual success is another hallmark of modern supply chain management systems. For example, many manufacturing companies share product concepts with suppliers early in the product development cycle. This lets suppliers contribute their ideas about how to make high-quality parts at a lower cost. Such an arrangement is enabled through IT and is usually referred to as an *information partnership*—two or more companies cooperating by integrating their IT systems, thereby providing customers with the best of what each can offer.

INDUSTRY PERSPECTIVE

STAPLES MAKES A BET ON ITS SUPPLY CHAIN MANAGEMENT SYSTEM

If you were running a highly successful retail operation, would you guarantee the availability of your fastest moving inventory or play it safe and guarantee only the availability of your slowest moving inventory that is seldom purchased? If you chose the latter, you'd be like many retailers, who play it safe, but you would be beaten by some of the competition such as Staples. Staples makes an in-stock guarantee to its customers for its fast-selling lines of ink-jet and toner cartridges, both of which Staples relies on heavily for revenue. If you find a cartridge is not in stock, Staples will ship it to your home with no delivery fee the next business day. It will also include a \$10 coupon you can use the next time you purchase the same toner cartridge. Now that's an ambitious guarantee—Staples will deliver an out-of-stock item the next business day *and* give you \$10 off your next purchase of the same item!

Staples's computer systems are linked with those of shipping companies such as UPS, a form of an *information*

partnership. If an item is out of stock, the Staples systems find the item at another store and immediately send UPS a request for package pickup and delivery. That's the way Staples can guarantee the next-day delivery.

Staples can make the guarantee because of its tight supply chain management system. Through its inventory monitoring function, Staples's SCM system carefully tracks the daily sales of its hottest items. When inventory starts to run low, the Staples SCM system sends an electronic order for more toner and/or ink-jet cartridges to the likes of HP. The product arrives in a timely manner to ensure shelf placement in light of forecasted demand.

While most retailers will offer you a rain-check and perhaps even help you find the out-of-stock product at another nearby store, Staples simply asks you to go home and wait for the next business day arrival of your product (and a \$10 coupon). That's a tall bet on Staples's IT-based supply chain management system.³

IT SUPPORT FOR SUPPLY CHAIN MANAGEMENT

While the SCM market was pioneered by specialist companies such as i2 and Manugistics, it is now dominated by ERP software providers such as SAP, Oracle/PeopleSoft, SSA Global, and Microsoft (more on ERP later in this chapter). If your career choice takes you into industries that focus on the manufacturing of products and/or the distribution and use of those products (such as hospitality, resort, and tourism management), you will have a great deal to do with SCM software. To learn more about this area, we encourage you to visit the following resources:

- Supply Chain Knowledge Base—<http://supplychain.ittoolbox.com/>
- Supply Chain Management Review—<http://www.scmr.com/>
- i2 Technologies—www.i2.com
- *CIO Magazine*—www.cio.com
- About Inc. (Logistics/Supply Chain)—<http://logistics.about.com/>
- Oracle/PeopleSoft Supply Chain—<http://www.oracle.com/applications/scm/index.html>

Customer Relationship Management

Wells Fargo Bank's customer relationship management system tracks and analyzes every transaction made by its 10 million retail customers at its branches, at its ATMs, and

LEARNING OUTCOME 2



CRM

through its Web-based online banking systems. Wells Fargo has become so good at predicting customer behavior that it knows what customers need even before many of them realize they need it. Wells Fargo's CRM system collects every customer transaction and combines it with personal information provided by the customer. The system is able to provide tailored offerings that will appeal to individual customers (a money-saving second mortgage, for example) at just the right time. As a result, Wells Fargo sells four more banking products or services per customer than the industry average of 2.2.⁴

Acquiring customers and then retaining them are the basic objectives of any organization, and thus, *customer relationship management* systems have become one of the hottest IT systems in business today. A **customer relationship management (CRM) system** uses information about customers to gain insights into their needs, wants, and behaviors in order to serve them better. Customers interact with companies in many ways, and each interaction should be easy, enjoyable, and error free. **Multi-channel service delivery** is the term that describes a company's offering multiple ways in which customers can interact with it. E-mail, fax, phone, and the Web are all ways in which most companies interact with their customers. A fundamental goal of a CRM system, then, is the management and tracking of all these interactions. The communications within the various channels must be organized and carefully recorded for each customer. If that doesn't happen, then your experience with the company may be less than optimal and you may choose to change companies or perhaps return the product for a refund. It's not uncommon for a customer to change companies after having a negative experience. Thus, the overriding goal of CRM is to limit such negative interactions and provide customers with positive experiences (even delightful ones).

CRM systems (see Figure 2.3) typically include such functions as

- Sales force automation
- Customer service and support
- Marketing campaign management and analysis

It's important to note that CRM is not just the software. It is a total business objective which encompasses many different aspects of a business including software, hardware,

Figure 2.3

Customer Relationship Management (CRM) System

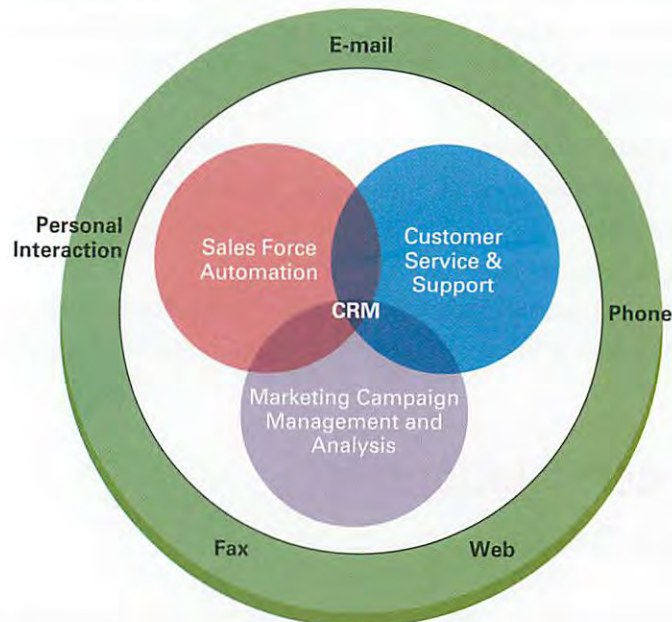




Figure 2.4

General Motors
Purchase Funnel⁵

services, support, and strategic business goals. The CRM system you adopt should support all these functions and should also be designed to provide the organization with detailed customer information. In many cases, companies begin with a sales force automation application and then progress to the other two functions. *Sales force automation (SFA) systems* automatically track all the steps in the sales process. The sales process contains many steps, including contact management, sales lead tracking, sales forecasting and order management, and product knowledge.

Some basic SFA systems perform sales lead tracking, or listing potential customers for the sales team to contact. They also perform contact management, which tracks all the times a salesperson contacts a potential customer, what they discussed, and the next steps. More sophisticated SFA systems perform detailed analysis of the market and customers and can even offer product configuration tools enabling customers to configure their own products. Some of the more robust CRM systems and methodologies, such as at General Motors (see Figure 2.4), focus on creating repeat customers. It is far more expensive to acquire a new customer than it is to retain an existing customer, especially in the automotive retail industry.

STRATEGIC AND COMPETITIVE OPPORTUNITIES WITH CRM

Overall, a well-designed customer relationship management system focuses on increasing revenue by providing delightful experiences for the customer in a variety of ways—tailored product and service offerings, seamless interaction, product knowledge, and so on. Thus, the primary focus of customer relationship management is

- Differentiation and focus (Porter's three generic strategies)
- Top-line initiative (revenue enhancement)
- Growing the organization (run-grow-transform framework)

Of course, customers are willing to pay only so much for these “delightful” interactions and product selections, so your organization must have a tight supply chain management system in place to ensure an acceptable price.

One of the rewards of CRM is competitive advantage through superior performance in CRM functions, in particular:

- Devising more effective marketing campaigns based on more precise knowledge of customer needs and wants.
- Assuring that the sales process is efficiently managed.
- Providing superior after-sale service and support, for example, through well-run call centers.

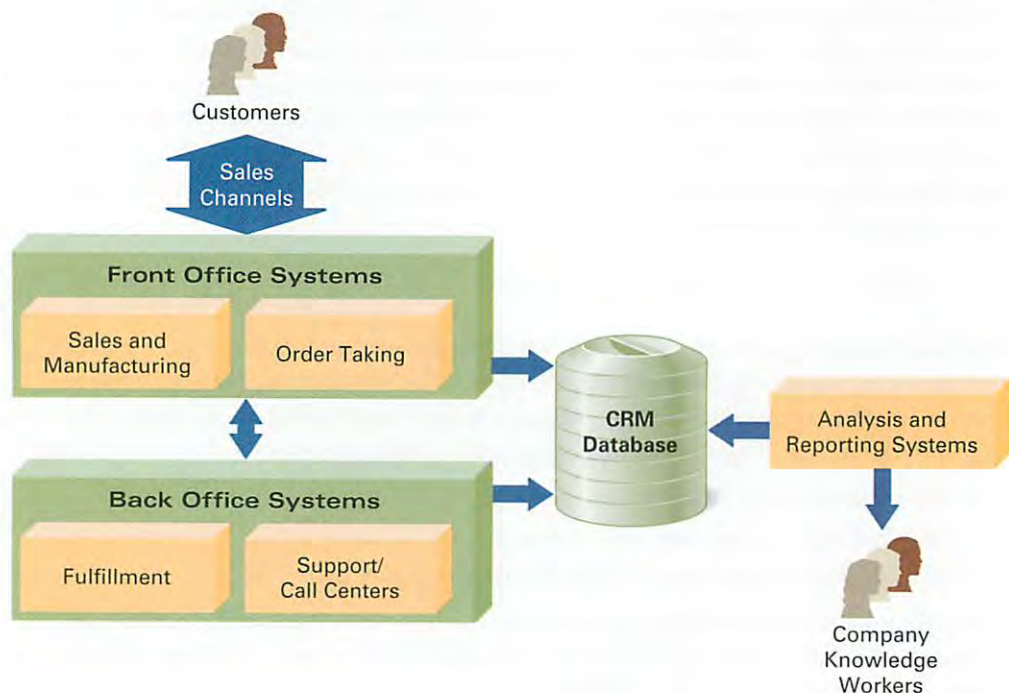
All the classic goals of CRM—treating customers better, understanding their needs and wants, tailoring offerings in response—are likely to result in buyers choosing your product or service instead of the competition's. Predicting the amount by which the CRM-enabled organization will gain market share, however, can be difficult. But certainly, it is something that can be measured after the fact, thus allowing your organization to understand the true results of better CRM in terms of customers' buying decisions.

IT SUPPORT FOR CUSTOMER RELATIONSHIP MANAGEMENT

Figure 2.5 shows a sample CRM system infrastructure. The *front office systems* are the primary interface to customers and sales channels; they send all the customer information they collect to the database. The *back office systems* are used to fulfill and support customer orders and they also send all their customer information to the database. The CRM system analyzes and distributes the customer information and provides the organization with a complete view of each customer's experience with the business. A typical back office function such as order fulfillment would have direct ties to the supply chain management system, creating synergy between the customer relationship management system and the supply chain management system.

There are many systems available today that a company can purchase that offer CRM functionality. Some of the bigger providers of these packages are Clarify,

Figure 2.5
A Sample CRM System
Infrastructure



GLOBAL PERSPECTIVE

APC CREATES A WORLDWIDE PROTECTION PRESENCE WITH CUSTOMER RELATIONSHIP MANAGEMENT

"We want to know as much information about customers as we can possibly get . . . It's not only about being a supplier but a trusted business partner and advisor for customers to solve real business problems," explains Brian Belliveau, CIO of American Power Conversion (APC). APC's customers include consumers who purchase surge protection for high-end items such as home PCs and plasma TVs and also other businesses wanting to protect expensive computers and data centers from frying during thunderstorms.

APC's operational presence is already worldwide. With its corporate offices in Rhode Island, APC has sales offices all over the world and manufacturing facilities in the United States, Brazil, India, China, Ireland, Switzerland, the Philippines, and Denmark; it ships products around the world to over 160 countries. In 2005, 52 percent of APC's revenues were in the United

States and Central America, 30 percent in Europe, the Middle East, and Africa, and 18 percent in Asia.

APC established a CRM initiative called the *Customer Loyalty Framework*. Using CRM technology provided by such companies as Siebel, APC identifies each and every touch point with customers, failed transactions, and what is needed to elevate customer satisfaction. APC has developed an automated credit approval process and expects the new function to yield \$8 million in benefits over a three-year period.

Now, all employee bonuses are tied to customer satisfaction. As Brian Belliveau explains it, "All employee bonuses are tied back to customer satisfaction. If customers aren't happy and the satisfaction numbers are going down, everybody gets a piece of that. And if the numbers are doing better, we get a piece of that, too."^{6,7}

Oracle/PeopleSoft, SAP, and Siebel Systems (now a part of Oracle/PeopleSoft). Clarify and Siebel are also two of the most prominent SFA software providers; others are Salesforce.com and Vantive. Salesforce.com was the first company to offer CRM using an ASP (application service provider, which hosts its software on a Web server and allows customer organizations to use the software via the Internet) model, and others have since followed suit. For additional CRM resources, we encourage you to visit the following:

- Siebel Systems—<http://www.oracle.com/siebel/index.html>
- Salesforce.com—<http://www.salesforce.com/>
- *CIO Magazine*—www.cio.com
- MyCustomer.com—<http://www.mycustomer.com/>
- CRMToday—<http://www.crm2day.com/>
- CRM Knowledge Base—<http://crm.ittoolbox.com/>
- destinationCRM.com—<http://www.destinationcrm.com/>

E-Collaboration

Almost everything you do in an organization will be performed in a team environment. So, improving team collaboration greatly increases your organization's productivity and competitive advantage. Broadly defined, *e-collaboration* is the use of technology to support

1. Work activities with integrated collaboration environments.
2. Knowledge management with knowledge management systems.

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3. Social networking with social networking systems.
4. Learning with e-learning tools.
5. Informal collaboration to support open-source information.

WORK ACTIVITIES WITH INTEGRATED COLLABORATION ENVIRONMENTS

For support of work activities you'll find *integrated collaboration environments (ICEs)*, environments in which virtual teams do their work. *Virtual teams* are teams whose members are located in varied geographical locations and whose work is supported by specialized ICE software or by more basic collaboration systems. A collaboration system is software that is designed specifically to improve the performance of teams by supporting the sharing and flow of information. More and more, virtual teams are composed of people from your company's information partnerships as well, as we discussed earlier in the context of supply chain management systems.

Many companies first use e-mail and then move on to ICEs incorporating more advanced features such as giving employees access to each other's calendars, group scheduling software, imaging software, and the following.

- *Workflow systems* facilitate the automation and management of business processes. A *workflow* defines all the steps or business rules, from beginning to end, required for a business process. For example, all the steps to process a loan application in a bank could be enabled by a workflow system with the necessary documents updated and passed from employee to employee as electronic documents (complete with electronic signatures).
- *Document management system* manages a document through all the stages of its processing. It is similar to a workflow system except that the focus is more on document storage and retrieval.

KNOWLEDGE MANAGEMENT WITH KNOWLEDGE MANAGEMENT SYSTEMS

We introduced you to the notion of *knowledge* in Chapter 1. A *knowledge management (KM) system* is an IT system that supports the capturing, organizing, and dissemination of knowledge (i.e., know-how) throughout the organization. The objective of KM systems is to be sure that a company's knowledge of facts, sources of information, solutions, patents, trademarks, and best-practice processes are available to all of its employees whenever needed. For example, consulting firms make very effective use of KM systems by ensuring that consultants, working on a new project, can see and read what other consultants have done on similar types of projects. The idea is that there is both efficiency and effectiveness on an organizationwide basis if consultants don't have to continually "reinvent the wheel" when faced with a challenge similar to a challenge faced on another project.

SOCIAL NETWORKING WITH SOCIAL NETWORKING SYSTEMS

Most likely, you're familiar with some very popular social networking sites such as Myspace and Facebook. A *social networking site* is a site on which you post information about yourself, create a network of friends, read about other people, share content such as photos and videos, and communicate with other people. In the business world, social networks take on a different meaning and are referred to by the term *social networking system*. A *social networking system* is an IT system that links you to people you know

and, from there, to people your contacts know. For example, if a salesperson at your company wants an introduction to an influential executive at another company, a social networking system could find out if someone in your company has good enough connections to arrange an introduction. This is exactly the kind of question that could get a quick reply from the right kind of social networking system.

Business-focused social networking systems, such as LinkedIn (www.linkedin.in.com), have been slower in subscriber growth than general-population sites such as Myspace and Google's Orkut. Nonetheless, business-focused social networking systems are gaining in acceptance, use, and profitability.

LEARNING WITH E-LEARNING TOOLS

Also in the area of e-collaboration we find *e-learning tools*. E-learning tools are IT-enabled systems that facilitate learning. You've probably worked with an e-learning tool such as WebCT, Blackboard, or e-College. These tools primarily focus on educational environments such as your school. But an important part of your career is ongoing learning and you will find numerous organizations that provide e-learning tools so their employees can learn on the job, in virtual classrooms, or in self-study environments $24 \times 7 \times 365$ days a year.

INFORMAL COLLABORATION TO SUPPORT OPEN-SOURCE INFORMATION

Integrated collaboration environments (ICEs), knowledge management systems, and e-learning tools are vitally important organizational resources. We say "organizational" here in reference to an actual organization such as a company or your school. There are also many informal organizations, such as a network of friends on Myspace, supported by social networking systems. Even more informally, groups of people may want to share information on specific ideas and topics. While you can do this with a blog or within a social networking system, many people are now gathering around *wikis*.

A *wiki* is a Web site that allows you—as a visitor—to create, edit, change, and often eliminate content—or *open-source information*. *Open-source information* is content that is publicly available (in a broad sense), free of charge, and most often updateable by anyone. The most popular and well-known wiki is Wikipedia (www.wikipedia.org). Millions of people use Wikipedia as a reference site and a large percentage of those people then participate in no predefined manner in the development, editing, and review of the content (hence, *open-source* information). Thus, wikis support very informal collaboration as opposed to the more formal collaboration that would take place in an organization when a team is working on a project.

STRATEGIC AND COMPETITIVE OPPORTUNITIES WITH E-COLLABORATION

The payoffs from collaboration can be huge. For example, while oil and gas exploration companies usually form joint ventures on large projects, they often do not collaborate on purchases of high-dollar-value commodities for the project. A recent survey estimated that the industry could realize up to \$7 billion in annual savings by using collaborative technologies and seeking more collaborative preferred provider relationships.⁸

There are many examples of knowledge management systems successfully adding value. For example, in making the case for a knowledge system at Hewlett-Packard (HP), John Doyle, the former head of HP Labs, is credited with saying, "If only HP knew what HP knows."⁹ What he meant by this was that there was a huge amount of valuable

Type	Basic Functions	Example	Web Site
Collaboration	Real-time collaboration and conferencing	LiveMeeting	www.microsoft.com
Workflow	Business process management	Metastorm	www.metastorm.com
Document management	Enterprise content management	FileNet	www.filenet.com
Peer to peer	Desktop and mobile collaboration	Groove	www.groove.net
Knowledge management	Knowledge capture, organization, location, and reuse	IBM Knowledge Discovery	www-306.ibm.com/software/lotus/knowledge/
Social network	Leveraging your personal and professional network	Linkedin	www.linkedin.com

Figure 2.6

A Few E-Collaboration Systems

knowledge in the brains and files (both paper and computer) of HP employees. If HP knew what knowledge was there, and it was shared and accessible to others, it could be useful in solving critical problems, or could lead to ideas for new products and services. Finally, social networking systems and e-learning tools promise to forever change the face of business with respect to finding and making new contacts and facilitating learning. These types of e-collaboration tools are relatively new to business, but they already offer great efficiencies and effectiveness.

IT SUPPORT FOR E-COLLABORATION

There are literally scores of different e-collaboration software vendors and tools on the market today. Figure 2.6 provides a list of just a very few. The broad integrated collaboration environment market is dominated by the likes of IBM/Lotus, Microsoft, and Novell. There are many knowledge management systems available today with no clear-cut market leader. Social networking systems that are business focused are still relatively new but include LinkedIn, Spoke, and Tribe.net. A quick search of Google yielded over 300,000 valuable Web sites for exploring e-collaboration and supporting IT-based e-collaboration tools.

IT Culture—An Organizational Perspective

How your organization chooses its technologies and their implementation to support major business initiatives (and, for that matter, simple and mundane day-to-day processing activities) depends greatly on its IT culture. *IT culture* refers to how the IT function is placed structurally within an organization and the organization's philosophical

CONSTELLATION ENERGY: CONNECT. INTERACT. TRANSFORM.

When Beth Perlman joined Constellation Energy as its CIO in 2002, she noticed that employees didn't seem to communicate with each other—not necessarily around the water cooler or at lunch, but rather concerning vitally important documents, information, and knowledge. She immediately acquired and implemented a suite of standardized collaboration tools for everyone to use. The suite includes Microsoft Live Meeting for information sharing, SharePoint for document collaboration, and Windows Messenger for instant messaging. Just a year later the results were astounding.

Through Live Meeting, for example, the company held more than 10,000 hours of meetings, saving the company \$41 per attendee and gaining an average of 98 minutes in productivity per employee. Constellation's "Connect. Interact. Transform." initiative has literally

been enabled through the use of technology. And although initially Beth didn't think many employees would take advantage of document collaboration through SharePoint, she now believes that just about everyone is doing so. Take Kevin Hadlock, Constellation Energy's director of investor relations, for example. Because of SharePoint's deployment, Kevin can now spend more time analyzing data for earnings releases because he spends hundreds of fewer hours collecting the documents that go into the releases. For his analyst presentations, Kevin now claims to spend at least one week less in preparation because of SharePoint.

Collaboration tools can yield great benefits in the business environment. They don't have to be fancy or hard to use—they simply need to support people in their sharing of information.¹⁰

approach to the development, deployment, and use of IT. As you can see, IT culture has two primary aspects:

1. The structuring of the IT function.
2. The organization's philosophy as to the use of IT.

IT CULTURE—STRUCTURING THE IT FUNCTION

Structurally, your organization can place the IT function in any number of ways, with these three being the most common (see Figure 2.7 on the next page):

1. Top-down silo
2. Matrix
3. Fully integrated throughout the organization

In a *top-down silo* approach (the structure in the upper left of Figure 2.7), your organization would create a department or IT function devoted exclusively to everything related to technology—budgeting, project management, capacity, processing, and so on. Such an approach exhibits a strong “command and control” management style. All other functions (e.g., marketing, finance, etc.) must go through the IT department for approval of new projects, the generation of ad hoc reports, support functions, and the like.

In a *matrix* approach (the structure in the upper right of Figure 2.7), you will still find a separate IT department or function, but the goal here is to maintain IT personnel within the IT department but matrix them across the other functions. In this instance, IT considerations such as budgeting, project management, processing, and the like are done in concert with significant input from the other functions. While control still rests with the IT function or branch, everything becomes more collaborative across the organization.

In a *fully integrated* approach (the structure in the bottom of Figure 2.7), many IT personnel are now located within the other functional units, although there is still

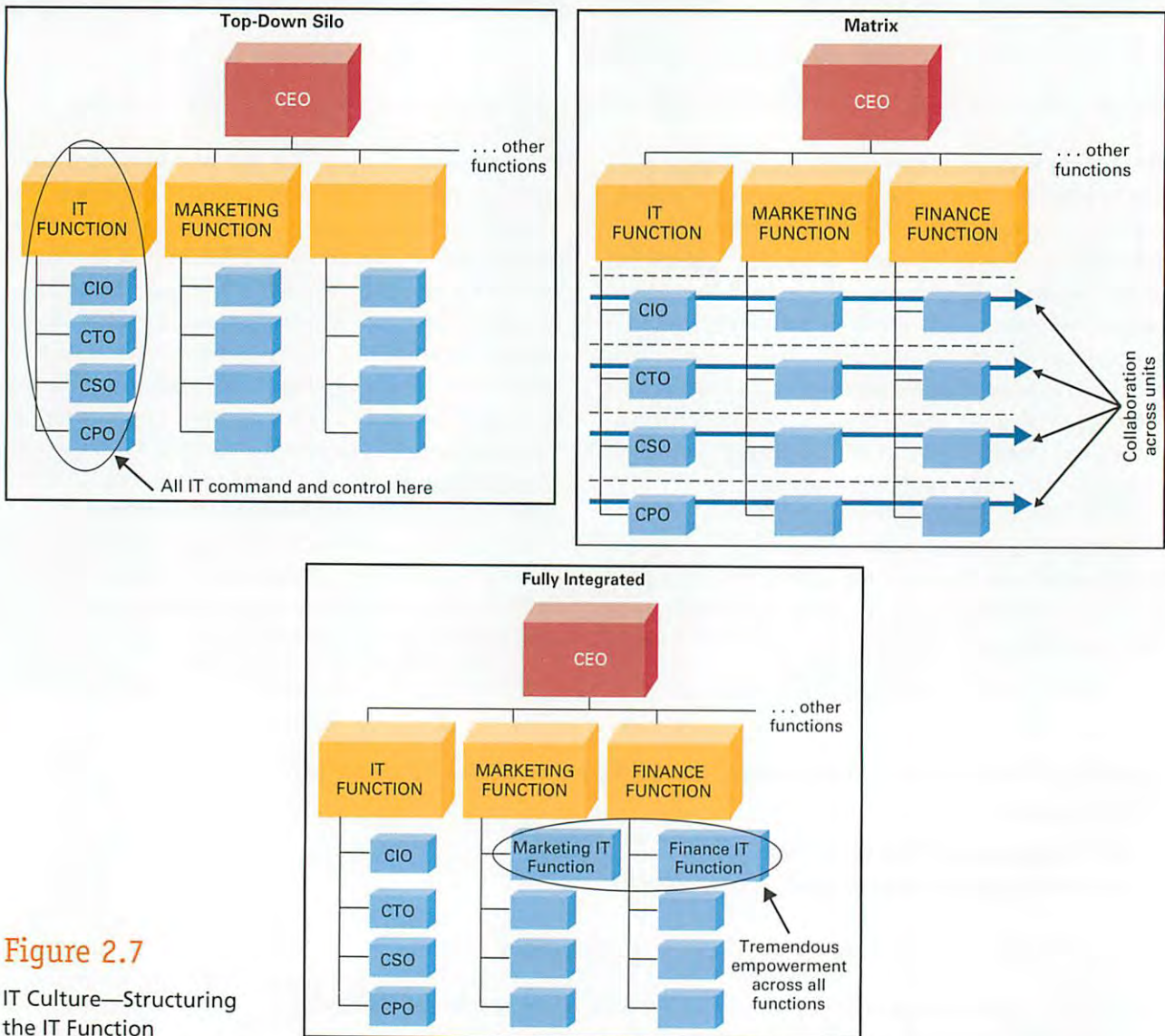


Figure 2.7
IT Culture—Structuring
the IT Function

usually a separate IT department or function. Moreover, these integrated IT people have their own budget, can approve department projects, and can initiate the end-user development of smaller projects, ad hoc reports, and so on.

In Figure 2.7, you'll notice a number of acronyms that may be new to you; these are significant and important strategic IT functions within an organization. They include

- **CIO (chief information officer)**—responsible for overseeing every aspect of an organization's information resource.
- **CTO (chief technology officer)**—responsible for overseeing both the underlying IT infrastructure within an organization and the user-facing technologies (such as CRM systems).
- **CSO (chief security officer)**—responsible for the technical aspects of ensuring the security of information such as the development and use of firewalls, intranets, extranets, and anti-virus software.

- **CPO (chief privacy officer)**—responsible for ensuring that information is used in an ethical way and that only the right people have access to certain types of information such as financial records, payroll, and health care.

All of these functions have in recent years joined the ranks of strategic management such as CFO (chief financial officer) and CEO (chief executive officer).

IT CULTURE—PHILOSOPHICAL APPROACH TO IT

The placement of the IT function within an organization is greatly influenced by the organization's philosophy as to the development, deployment, and use of IT. In Figure 2.8, you can see two axes. The horizontal axis provides a spectrum of philosophy ranging from organizations that are early adopters of IT to organizations that “wait and see” whether emerging technologies prove themselves before adopting them. Along the vertical axis structural placement of the IT function ranges from greatly decentralized (“fully integrated” in our previous discussion) to greatly centralized (“top-down silo” in our previous discussion).

Decentralized, early adopters of technology (top right quadrant in Figure 2.8) empower employees throughout the organization to try new and emerging technologies in the hope of finding a few that can provide significant competitive advantage. These organizations support and encourage *technology innovation failure*, a reward system for trying new technologies even if they prove to be unsuccessful. At the opposite extreme are centralized, wait-and-see organizations (bottom left quadrant in Figure 2.8) that require the demonstration of significant ROI (return on investment) before first adopting a new technology within the IT function and then deploying that technology to the rest of the organization.

Is any particular IT structure or philosophical approach better than another? The answer is definitely yes, depending on a number of factors. Companies looking for significant growth in an emerging industry would probably emphasize being a decentralized early adopter, while companies in a mature industry with little possibility for increasing market share would not. Overall, the IT culture within your organization should match its overall culture and be developed keeping in mind the industry in which your organization competes.

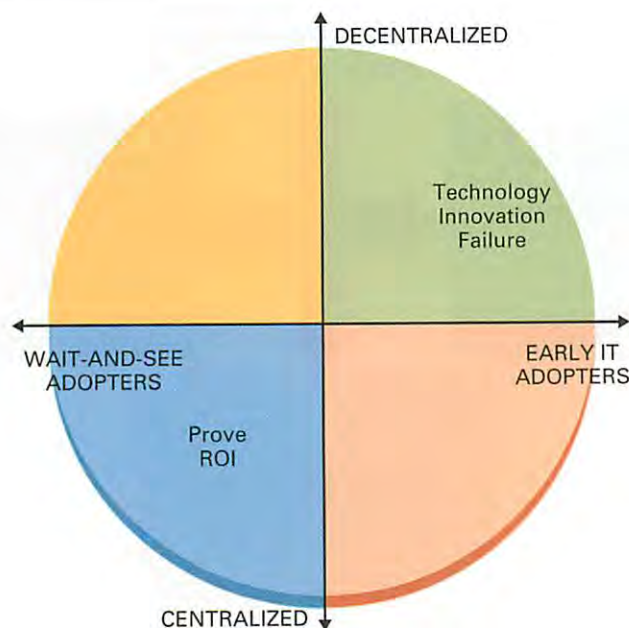


Figure 2.8

IT Culture—Philosophical Approach to IT

Enterprise Resource Planning— Bringing IT All Together

LEARNING OUTCOME 5

To this point, we've considered major business initiatives such as supply chain management, customer relationship management, and e-collaboration individually, focusing on the key strengths and advantages of each. But in the business world, you will deal with the issue of integrating them and making them work together. Consider supply chain and customer relationship management. They must work together, sharing information. To create tight supply chains that provide the right products and services at exactly the right time, you must know what customers want and when they want it (the province of customer relationship management). That brings us to enterprise resource planning systems, also known as enterprise software. An *enterprise resource planning (ERP) system* is a collection of integrated software for business management, accounting, finance, human resources management, project management, inventory management, service and maintenance, transportation, e-business, and—yes—supply chain management, customer relationship management, and e-collaboration. It may sound like a long list (and it is), but the central notion behind an ERP system is that it includes all technology systems and software in your organization.

In Figure 2.9, an ERP system allows transparent integration of functions, providing flows of information among all areas within the enterprise in a consistently visible manner. ERPs allow companies to implement a single integrated system replacing their *legacy* information systems. A *legacy information system (LIS)* represents a massive,

Figure 2.9

Overview of ERP System



long-term business investment in a software system with a single focus; such systems are often brittle, slow, and nonextensible. ERP systems are configurable information systems packages that seamlessly integrate all the information processes in the company within and across all functional areas—financial, accounting, human resources, supply chain, and customer information. The result is (1) integrated information across the board (data, information, and business intelligence), (2) one suite of applications, and (3) a unified interface across the entire enterprise. An ERP system is required to have the following characteristics:

- Modular design comprising many distinct business functions such as financial, manufacturing, and distribution.
- A centralized database that organizes and manages information.
- Integrated functions that provide seamless information flow among them.
- Flexible best practices.
- Functions that work in real time.
- Internet-enabled.¹¹

Different ERP vendors provide ERP systems with some degree of specialty, but the core functions are almost the same for all of them (see Figure 2.10). Some of the core ERP functions found in the successful ERP systems are the following:

- Accounting
- Financials
- Manufacturing
- Production
- Transportation
- Sales and distribution

Figure 2.10

ERP Vendors

Vendor/Web Address	ERP Specialties/Characteristics	Target Market
SAP www.sap.com	Customer relationship management, financial management, human resource management, and supply chain management	Large business
Oracle/PeopleSoft www.oracle.com	Financial management, human resource management, and supply chain management	Large business
SSA Global (Baan) www.ssaglobal.com	Customer relationship management, financial management, human resource management, and supply chain management	Large business
Microsoft (Great Plains) www.microsoft.com	Financial management, distribution, manufacturing, project accounting, human resource management, and business analytics	Small-to-medium business

- Human resources
- Supply chain
- Customer relationship
- E-business

You need to realize that ERP systems will not improve organizations' functionalities overnight. The high expectation of achieving cost savings (bottom-line initiative) and service improvements (leading to top-line revenue increases) is very much dependent on how good the chosen ERP system fits the organizational functionalities and how well the tailoring and configuration process of the system matches with the business culture, the IT culture, the strategy, and the structure of the organization. Overall, an ERP system is expected to improve both back-office and front-office functions simultaneously. Organizations choose and deploy ERP systems for many different benefits and reasons. In many cases the calculation of return on investment (ROI) is weighted against the many benefits expected.

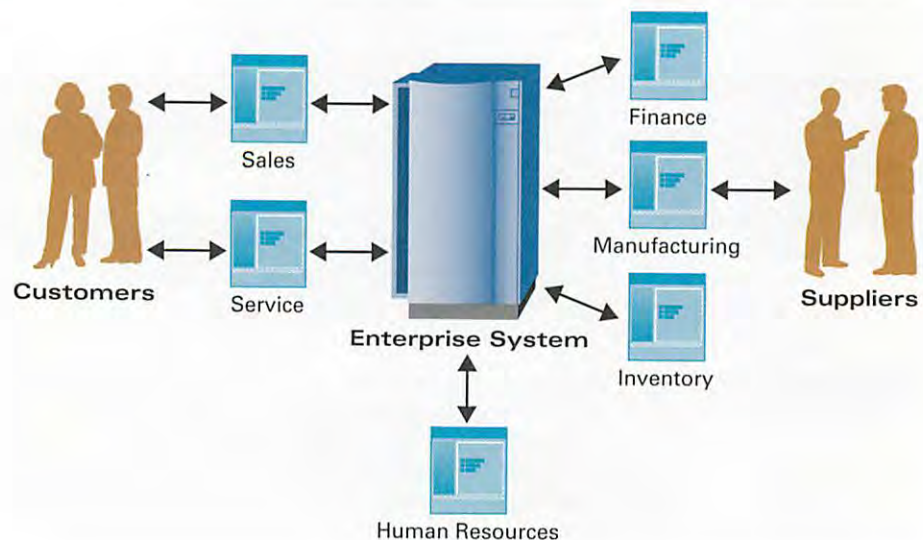
It may be a challenge for you to wrap your brain around the concept of an ERP system without first-hand experience in using one. Consider your school for example, which to a greater or lesser degree, has some form of an ERP system. When you register for classes, for instance, you may not be able to do so because of outstanding parking tickets, overdue library books, an unpaid tuition balance, or a host of other reasons. And if you can register for classes, when you receive your tuition bill, it already includes allowances for government loans, scholarships, and the like. This is all possible because your school's individual IT systems—that each handle a different function such as registration, parking, tuition financials, and loans and scholarships—are tied together in the form of an ERP system. Businesses in the private sector (and some public sector ones as well) attempt to do the same thing on a grander scale (see Figure 2.11). These organizations integrate predictions of customer demands (customer relationship management) into an ERP system to drive other functions such as finance, manufacturing, inventory, transportation, and distribution (with the latter four being an integral part of supply chain management). Organizations even attempt to predict the acquisition of human resource talent in light of existing human resource attrition and the need for increased human resource capacity based on predicted customer demands.



ERP

Figure 2.11

The Integration within an ERP System



INDUSTRY PERSPECTIVE

INVITE FEDEX INTO YOUR ERP

As you know from Chapter 1, competitive advantages can be fleeting and are at best only temporary. A few years ago, FedEx rolled out a customer-integrated Web package tracking system that gave it a substantial competitive advantage for about a year. The other package carriers then followed with similar systems and FedEx's competitive advantage was nullified.

FedEx's latest innovation through IT promises to be even better. Its new offering is called *Ship Manager*, a complete computer system that FedEx will install on your organization's site. Ship Manager allows you to easily weigh packages, calculate shipping, and print shipping labels. Of course, it will also automatically notify FedEx that you have a package ready to ship.

But it doesn't stop there. Ship Manager can then tie seamlessly into your ERP back-office systems, providing data to your customer billing, inventory, and warehouse operations functions. For example, the FedEx shipping number and expected arrival date for a specific package can flow directly into a customer purchase record. If that customer calls, your organization can quickly provide the shipping number and also the expected arrival date.

What FedEx really hopes to create with Ship Manager is a sustainable competitive advantage. Because Ship Manager integrates with your ERP system to provide the automated flow of information, why would you consider ever switching carriers? We'll have to see how the likes of UPS respond to FedEx's latest IT-based innovation.¹²

To say the least, everything in business is related to everything else in business. An effective customer relationship management system that accurately predicts product and service demand is of no use to your organization if that information is not seamlessly electronically flowed to a supply chain management system. Further, that CRM system is of no value if the SCM system doesn't effectively monitor the quality and shipping timeliness of suppliers to identify any weaknesses. Conversely, the best SCM system is no value to your organization if you don't have a CRM system that tracks the right information about your customers. Everything in business is related to everything else in business.

Summary: Student Learning Outcomes Revisited

1. Define supply chain management (SCM)

systems and describe their strategic and competitive opportunities. A *supply chain management (SCM) system* is an IT system that supports supply chain management by automating the tracking of inventory and information among business processes and across companies. Strategic and competitive opportunities for SCM systems include:

- Overall cost leadership (Porter), bottom-line initiative (cost reduction), running the organization (RGT framework)

- Fulfillment—right quantity of parts or products at the right time
- Logistics—low cost of transporting materials
- Production—ensuring production lines run smoothly
- Revenue and profit—no sales are lost
- Cost and price—keeping part costs down and product prices at acceptable levels

2. Define customer relationship management (CRM) systems and describe their strategic and competitive opportunities. A *customer*

relationship management (CRM) system uses information about customers to gain insights into their needs, wants, and behaviors in order to serve them better. Strategic and competitive opportunities for CRM systems include:

- Differentiation and focus (Porter), top-line initiative (revenue enhancement), and growing the organization (RGT framework)
- Devising more effective marketing campaigns
- Assuring the sales process is efficiently managed
- Providing superior after-sale service and support

3. Define e-collaboration and describe its strategic and competitive opportunities. E-collaboration is the use of technology to support

- Work activities with **integrated collaboration environments (ICEs)**, also with **workflow systems** and **document management systems**
- Knowledge management with **knowledge management systems**
- Social networking with **social networking systems**
- Learning with e-learning tools
- Informal collaboration to support **open-source information**

4. Discuss the impact IT culture has on technology choices and their implementations

within an organization. IT culture has two aspects. First is the structural placement of the IT function within the organization: **top-down silo** for a command-and-control approach to technology choices and their implementations; **matrix** for a more collaborative approach; and **fully integrated** for truly empowering employees to make technology choices and implementations. The second aspect of IT culture is the philosophy of an organization toward IT ranging from early adopters, who aggressively pursue emerging technologies hoping to find some good ones, to wait-and-see cultures that demand proven ROI before adopting a technology.

5. Explain the significance of enterprise resource planning (ERP) software as the integration of functional software systems. An enterprise resource planning (ERP) system is a collection of integrated software for business management, accounting, finance, project management, SCM, e-collaboration, and a host of other business functions. The basic goal of an ERP system is to provide (1) integrated information (data, information, and business intelligence), (2) one suite of applications, and (3) a unified interface across the enterprise. An ERP system replaces legacy systems and seamlessly integrates all functional software systems within an organization.

CLOSING CASE STUDY ONE

IS ERP THE ANSWER FOR A COMPANY THAT HASN'T MADE A PROFIT IN SIX YEARS?

Sun Microsystems lived and operated in a dream world throughout most of the 1990s, realizing significant revenue mainly from its line of server computers. Then, along came the dot-com implosion around 2000 and a new entrant into the market, Dell Computer. Dell had previously focused most of its efforts on providing customized personal computers. Its growth strategy was to take its famous and world-renowned sell-source-ship model into the server market. And that hurt Sun probably more so than the dot-com implosion. In fact, Sun hasn't earned an annual profit since fiscal year 2001.

When its fiscal year 2006 ended on June 30, it posted a loss of \$864 million.

Previously, Sun did what many computer vendors did. It received unfinished products from manufacturers, stored them in warehouses, and configured them according to customer needs once a customer placed an order. As Eugene McCabe, executive VP of worldwide operations for Sun, explained it, "We knew we had to make some changes." And Sun did, with the rollout of the One Touch Supply Chain effort in 2004, in which products are sent directly from manufacturers to

customers. This alone has cut in half the time between when you order a computer from Sun and when you receive it. As Eugene summarized it, "What we wanted to do is take that step out of the supply chain." "That step" was Sun itself—now when you order a computer from Sun, it never sees, handles, or warehouses it. Sun's logistics expenses have been reduced by more than \$20 million annually, which helps alleviate the financial losses the company has been experiencing.

According to Robert Worrall, Sun's CIO, who has been with the company for 16 years, "We live and die by the supply chain and the demand cycle." So much so, that Robert estimated that 20 percent of the company's IT staff spends part of its time devoted to demand planning and supply chain systems. Those staff are now focused on One Touch Supply Chain. The infrastructure of that initiative is ERP applications from Oracle, supply chain management software from Manugistics, and demand planning software from i2 Technologies.

When you order a Sun server, One Touch Supply Chain determines which manufacturer can best fulfill your order and electronically transmits your order information to the manufacturer. The manufacturer assembles, configures, and tests your system before sending it directly to you. This increased efficiency in the supply chain has enabled Sun to deliver products to customers within the promised time 95 percent of the time, up from 85 percent. The manufacturers even tap into Sun's order-processing system and generate a customer invoice and shipping order for you.

Equally important, Sun has been able to close distribution centers in Asia, Europe, and the United States, creating valuable cost savings. It has also significantly cut inventory costs.¹³

Questions

1. In reference to Porter's Five Forces Model from Chapter 1, how was Sun affected by Dell Computer? Do you think Dell had a similar impact on other computer vendors in the same server market? Why or why not?
2. How closely does Sun's supply chain now mirror that of Dell Computer? Is it wise to "mimic" a competitor so closely? What about Blockbuster following the model of Netflix? How are they similar? What has Blockbuster added to its video rental model that appeals to people?
3. In this case study, we explained that Sun is now using software from multiple vendors—ERP from Oracle, supply chain management from Manugistics, and demand planning from i2 Technologies. Can this collection of software truly be an integrated, seamless, unified-interface, all-encompassing ERP system? How do you believe organizations get different pieces of software from different vendors to talk to each other?
4. What's on the customer relationship management side for Sun? How can it use the information it gathers on customers and their ordering habits to create a competitive advantage?
5. How has Sun created an information partnership with its supplier manufacturers? How has this information partnership created efficiencies in the supply chain?

CLOSING CASE STUDY TWO

IT'S ALL ABOUT CUSTOMER RELATIONS IN THE FINANCIAL SERVICES MARKET

Recently, the Principal Financial Group was honored as holding the number one ranking in *InformationWeek's* annual survey of U.S. companies making the best of use of information technology. Principal's best use of technology centers around customer relationship management

as a strategy to fuel current and future growth. Principal manages \$206 billion in retirement savings, investments, and insurance for more than 15 million employees working in over 100,000 small and medium-sized businesses.

Principal has a strong presence in the United States and also abroad. Principal's international business in 2006 grew to \$604 million, up nearly 17 percent from the previous year. Principal operates in such countries as India, Hong Kong, Brazil, Chile, and Mexico. All told, it managed \$6.7 billion in retirement assets outside the United States in 2006. Total revenues worldwide grew 8.5 percent in 2006, to \$9 billion, while profits were up 9 percent, to just slightly over \$900 million.

Principal's integrated approach to portfolio development and knowing each and every customer intimately has led it to engage its over 1,000 benefits counselors and 15 million customers in a Web-based and easy-to-use system that offers investment advice and gives each customer a personalized monthly snapshot (on paper as well) of their retirement outlook.

What's the role of information technology in all of this? As CIO Gary Scholten explains the big picture, "Our main purpose for IT is helping Principal grow, but the mantra we have is to help it grow responsibly." Nonetheless, the nitty-gritty of IT is where the real money is made.

Principal collects and analyzes huge amounts of information on each customer. Using that information, Principal can then sell them retirement plans, adding additional financial service products such as mutual funds and insurance. In the realm of insurance, for example, Principal can determine which of its customers would benefit most from fast-growing add-ons like vision, dental, disability, and life. The company even has a series of "milestone" financial service products. These allow Principal to offer advice to customers about moving money among funds and financial products as they near retirement or perhaps have children going off to college. To support this, Principal has gathered extensive information on each customer such as age, marital and family status, salary, and benefits.

Within the IT infrastructure, Principal has invested heavily in technologies that support fast turnaround times for transactions. Gary estimates that Principal

processes almost 1 million online transactions per day (that's only 1 for every 15 customers). These transactions are processed and posted in record time, giving customers the satisfaction of real-time financial transactions.¹⁴

QUESTIONS

1. How are Principal's efforts an excellent example of the implementation of customer relationship management? In what ways has Principal developed significant knowledge and insight into the wants and needs of its customers?
2. With respect to the use of information technology, is Principal focusing on a top-line or bottom-line initiative? Perhaps a combination of both? Justify your answer. Within the context of the RGT framework (described in Chapter 1), what is Principal's focus?
3. Within the context of Porter's three generic strategies, is Principal mainly focusing on overall cost leadership, differentiation, or focus? Pick only one and justify your answer.
4. Principal really offers only services to customers; that is, it has no physical products to sell. How would Principal make effective use of an ERP system, while not needing modules such as manufacturing, transportation, and logistics? As more and more companies focus on only service offerings, do you see a need for a *service* ERP that targets companies like Principal?
5. If you were to consider the financial services needs of a customer over his or her entire lifetime (after college), what specific information would you want to know about a customer? We identified information such as age, marital and family status, salary, and benefits. What five other information "milestones" would you want to track?

Key Terms and Concepts

Back office system, 72

Chief information officer (CIO), 78

Chief privacy officer (CPO), 79

Chief security officer (CSO), 78

Chief technology officer (CTO), 78

Customer relationship management (CRM) system, 70

Distribution chain, 66

Document management system, 74

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- Supply chain management (SCM) system, 66
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- Virtual team, 74
- Wiki, 75
- Workflow, 74
- Workflow system, 74

Short-Answer Questions

1. Why is the traditional buy-hold-sell inventory model an expensive and potentially risky one?
2. What is the role of a supply chain management (SCM) system?
3. How does SCM fit into Porter's three generic strategies?
4. What are the typical functions in a CRM system?
5. How does CRM fit into the RGT framework?
6. What is the difference between front-office and back-office systems?
7. For what five things does e-collaboration provide support?
8. What is the difference between a social network site and a social networking system?
9. What is open-source information?
10. What are the three most common ways in which the IT function can be placed within an organization?
11. How are the structuring of the IT function and the philosophical approach to IT interrelated?
12. What is an enterprise resource planning (ERP) system?

Assignments and Exercises

1. **COLLABORATION WORK** In a group of three or more students, collaborate on a project to make a list of your group's most popular music CDs. Then, classify the CDs into musical genres such as pop, classical, and so on. All communication about your project must be electronic (but not by voice or video phone). You can use e-mail, set up a Web site, use a chat room, use instant messaging, or use a collaboration e-room, if your school has that facility. Print out a copy of all correspondence on the project and put the correspondence together in a folder in chronological order. Was this task very different from collaborating face to face with your partners? In which ways was it better? In which ways was it worse? What additional problems or advantages would you expect if people you were working with were in a different hemisphere?
2. **WAL-MART'S SCM SYSTEM** Wal-Mart is famous for its low prices, and you may have experienced its low prices first-hand. At least, you have probably seen its motto, "Always Low Prices—Always." One of the biggest reasons Wal-Mart is able to sell at prices lower than almost everyone else is that it has a superefficient supply chain. Its IT-enabled supply chain management system is the envy of the industry because it drives excess time and unnecessary costs out of the supply chain. So, because Wal-Mart can buy low, it sells low. As

a matter of fact, if your company wants to sell items to Wal-Mart for it to sell in its stores, you will have to do business with it electronically. If your company can't do that, Wal-Mart won't buy anything from you. Log on to Wal-Mart's Web site (www.walmart.com), search for supplier information, and find out what Wal-Mart's requirements are for its suppliers to do business with it electronically. Prepare a brief summary of its requirements for presentation in class.

3. **REAL WORLD APPLICATIONS** In the chapter we mentioned that many CRM installations have been less than successful. On the other hand, there are many satisfied users of CRM applications. Log on to the Internet and find at least three examples of companies that are getting real business benefits from their CRM systems. Prepare a report on the results they are getting and the ways they achieved them. One place to start your search is at www.searchcrm.com. Another good source is the Web sites of CRM application software vendors Siebel and Salesforce.com (www.siebel.com and www.salesforce.com). At least one of your examples must be from a site other than the three mentioned.

4. **ERP FOR THE SMALL BUSINESS** Most major ERP vendors have been focusing on selling multimillion dollar installations of their software to very large organizations. That is shifting in focus somewhat as ERP vendors realize that the small-to-medium-size business market is probably just as large. Search the Internet for ERP vendors that focus on small-to-medium size businesses. Also, search for open-source ERP software. Prepare a short report for class presentation and offer the vendors that you found and their Web site addresses.
5. **IT CULTURE** Interview someone working in the business world, a friend, a family member, or simply someone you know. Explain to him or her the three most common ways of structurally placing the IT function within an organization. Also, explain to him or her the range of philosophical approaches to the development, deployment, and use of IT in an organization. Finally, show the person Figure 2.8 on page 79. Ask him or her to point out on that figure where his or her organization would be located. Understand the justification for the decision. Make a short presentation to class. If necessary, you can omit the company name but do provide its characteristics.

Discussion Questions

1. Do you think your school would benefit from installing a customer relationship management (CRM) system? How might it benefit you as a student? How could it benefit your school?
2. Spoke is e-collaboration software that examines all employees' e-mail contact lists searching for people at potential customer sites who may be known to employees. Do you think a company has an ethical obligation to notify employees it is going to use Spoke, or (because it will search only computer files on company-owned computers) is it none of the employees' business?
3. In the run-grow-transform (RGT) framework, the third component is transformation, or enabling your organization to operate in entirely new ways. Of the three major business IT applications we discussed in this chapter (supply chain management, customer relationship management, and e-collaboration), which one(s) do you believe most support organizational transformation? Justify your answer.
4. Think about IT culture and its two main aspects—(1) the structural placement of the IT function within an organization and (2) the philosophical approach to the development, deployment, and use of IT. In terms of changing and transforming an organization, which of these two would present the greatest challenge? Justify your answer. Of the three types of structural placement of the IT function within an organization that we described, which do you believe is most common? Justify your answer.

5. We noted that it is extremely difficult to measure the success of a CRM system prior to its implementation and use. Why do you

believe this is so? What can organizations do to develop measures of success before implementing a CRM system?

CHAPTER PROJECTS

Group Projects

- Executive Information System Reporting: Political Campaign Finance (p. 466)
- Developing an Enterprise Resource Planning System: Planning, Reporting, and Data Processing (p. 477)
- Evaluating the Next Generation: Dot-Com ASPs (p. 479)
- Building a Scheduling Decision Support System: Airline Crew Scheduling (p. 484)
- Assessing the Value of Supply Chain Management: Optimizing Shipments (p. 487)

e-Commerce Projects

- Consumer Information (p. 488)
- Demographics (p. 490)
- Bureau of Labor and Statistics (p. 490)
- Gathering competitive intelligence (p. 491)
- Meta data (p. 489)
- Gold, silver, interest rates, and money (p. 494)
- Small Business Administration (p. 496)
- Global statistics and resources (p. 494)