

# Emerging Management Practices



## LEARNING OBJECTIVES

*After reading this chapter, you should be able to answer the following questions:*

1

Why does business process reengineering cause radical changes in how firms execute processes?

2

What competitive forces are driving decisions to downsize and restructure operations?

3

Why are the operations of many firms becoming more diverse and how does the increasing diversity affect the roles of the firms' accounting systems?

4

What benefits do firms hope to attain by adopting enterprise resource planning systems?

5

Why are firms increasing their use of strategic alliances?

6

What is open-book management and why does its adoption require changes in accounting methods and practices?

7

What are the three generic approaches firms can take in controlling environmental costs?

<http://www.carpoin.msn.com>

**F**ord Motor Co. and Microsoft Corp., in a move that could transform the auto factory, are creating a strategic alliance to develop an online build-to-order system that will let consumers customize their cars and order them on the Internet.

The two companies announced a joint venture in which Ford will take a significant minority interest in CarPoint, Microsoft's car-buying site. Financial details weren't disclosed. The popular Web site is being made independent of Microsoft but won't be spun off from the software company. While other automakers are being offered stakes in the new site, Ford will be the lead partner, and Microsoft will retain a majority interest in CarPoint. Lindsay Sparks, general manager of CarPoint, will be the chief executive officer of the new entity.

"This isn't just a communication tool," Jacques Nasser, chief executive of Ford, based in Dearborn, Mich., said at a press conference. "It's a different way of running our business." Mr. Nasser expects that coupling the virtual world to the physical world will cut costs and time out of what is still an inefficient manufacturing and distribution system.

Until recently, most automakers and car-buying sites used the Internet to put buyers in touch with dealers or to let consumers research cars before they buy. Now, the alliance takes the Internet into the factory as well. "Until now, there's been no deep coupling with consumers and the back end (upstream side of the supply chain)," Steve Ballmer, president of Microsoft, Redmond, Wash., said.

SOURCE: Adapted from Fara Warner, "Ford and Microsoft Forge Alliance to Create Online Car-Sales System," *The Wall Street Journal Online* (September 21, 1999).

CarPoint illustrates a strategic joint venture between a technology company and a car manufacturer. The concept of CarPoint as a business model would have been inconceivable a few years ago. It is only because of the advancements in Internet and e-commerce technologies that this idea could be implemented. Ford views CarPoint not so much as a novelty as a necessity. Ford must have a strong capability to deliver its products through the marketing medium many predict will become dominant in the United States and other developed countries—the Internet.

For Ford and Microsoft to launch CarPoint as a viable competitor in the Internet marketing of autos, managers of the two companies had to consider several factors: how to combine the two firms' resources, how to manage the new entity, who would be responsible for the new entity's operations, and how the fruits of the effort would be shared. Making such decisions is now a common activity for general managers and functional experts of many firms, and using joint ventures to structure new enterprises is a common business event. The pressures of global competition cause managers to be ever vigilant in identifying ways to become more effective and efficient in serving customers. As a result, a proliferation of business practices have emerged in the past decade or so.

The "age of change" is an apt description for the current environment in which managers and finance professionals must function. Some changes have been driven by the fast pace of evolution in management practices and techniques. However, many of the changes have been driven by the even faster evolution of technology. For example, some technologies directly impacting the lives of public accountants are listed in Exhibit 17-1. This chapter introduces management practices that are emerging and maturing in firms around the globe. An emphasis is placed on the impact and roles of the financial professional in these new management methods. The discussion begins with dramatic structural changes occurring in the workplace that are affecting many employers and employees.

<http://www.fordvehicles.com>

<http://www.microsoft.com>

**EXHIBIT 17-1**

Top Ten Technologies Affecting  
CPAs in 1999–2000

1. *Net-enabled applications*: Internet/intranet/extranet—these applications run the gamut from e-mail to sophisticated supply chain communications
2. *Messaging applications*: e-mail, voicemail, and universal inbox
3. *Document management*: electronic storage and retrieval of documents
4. *Business process reengineering*: major changes in how a company operates
5. *Telecommuting applications*: applications allowing work outside the office
6. *Electronic commerce*: business conducted over the Internet
7. *Electronic document submission*: IRS and SEC filings
8. *Vide Conferencing*: real-time meetings in the virtual office
9. *Self-service applications*: technology that lets you do it yourself
10. *Collaborative computing applications*: different applications working together and sharing information

SOURCE: Anonymous, "Top 10 Technologies: The Applications," *Journal of Accountancy* 187, No. 3 (March 1999), pp. 12–13. Reprinted with permission from the *Journal of Accountancy*. Copyright (2000) by American Institute of CPAs. Opinions of the authors are their own and do not necessarily reflect policies of the AICPA.

## THE CHANGING WORKPLACE

The forces of global competition and technological advancements have caused profound changes in business organizations. To survive, managers must develop mechanisms to achieve needed competitive changes in their organizations. In general, change can be achieved in two ways: immediately or gradually. Managers seek both types of change.

Exhibit 17–2 provides some overriding change implementation principles that managers should follow when implementing changes. Note that principles 5 through 8 involve major roles for financial professionals within the firm. These roles will be explained further as the chapter unfolds.

When major operational improvements are mandated, managers completely revise the way activities are executed. Business process reengineering is a tool to achieve large, quick gains in effectiveness or efficiency through redesigning the execution of specific business functions.

1

Why does business process reengineering cause radical changes in how firms execute processes?

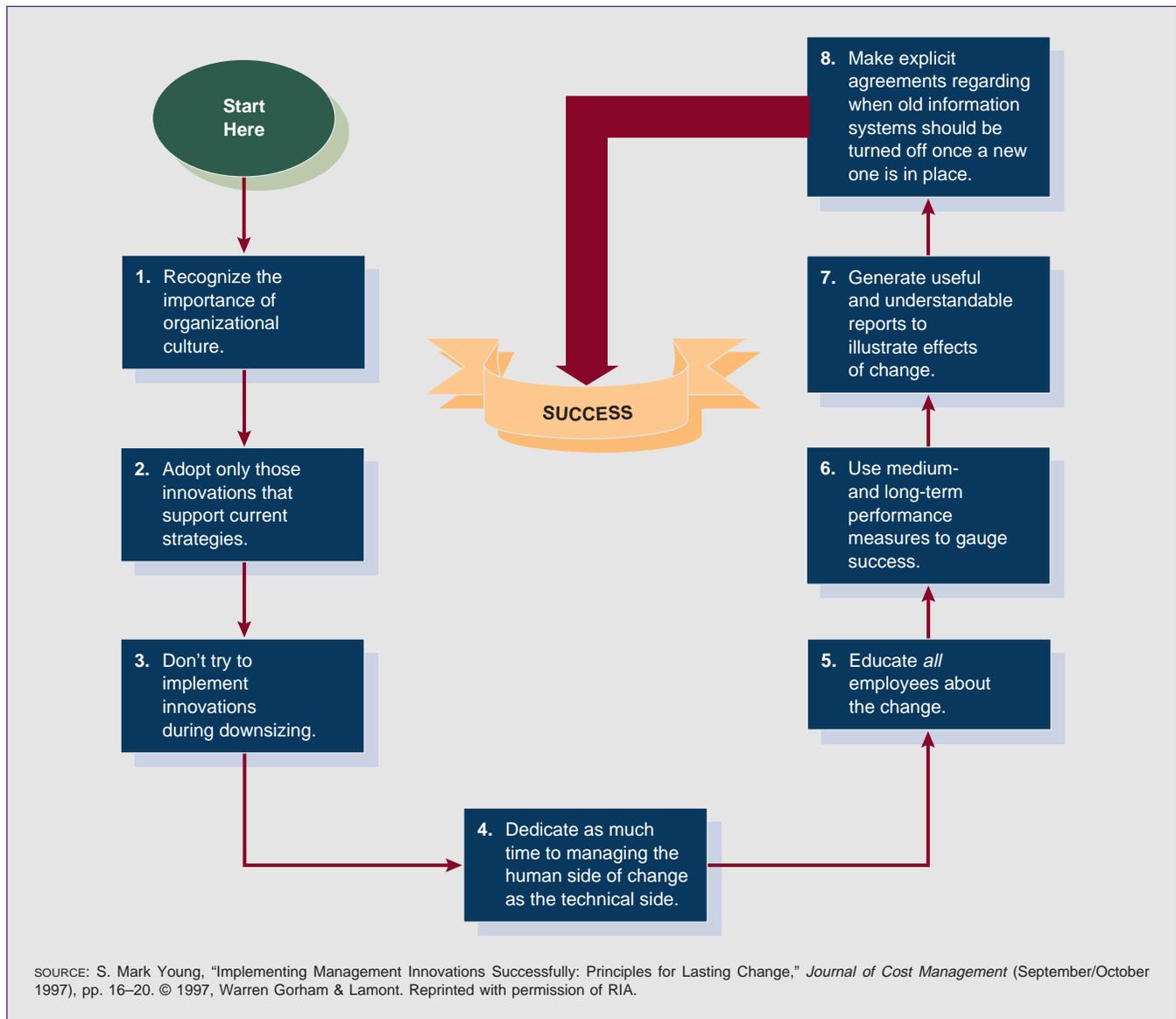
### business process reengineering

### Business Process Reengineering

**Business process reengineering** (BPR) is a method of examining processes to identify, and then eliminate, reduce, or replace functions and processes that add little customer value to products or services. The focus of BPR is on discrete initiatives to improve specific processes. Examples of processes include handling or storing purchased materials and components, issuing checks to pay labor and other production expenses, wrapping finished products for shipment to customers, recording journal entries, and developing an organizational strategic plan.

BPR is designed to bring radical changes to an organization's operations; BPR is often associated with employee layoffs, outsourcing initiatives, and technology acquisition. Three major business trends are promoting the increased use of BPR in the 21st century.

The first trend is the advancement of technology. Neither the electronic remittance of accounts payable nor the use of robotic equipment to move and assemble components in a manufacturing facility were possible 50 years ago. Both of these are commonly done today, even in small companies, because of technological advancements. Because BPR focuses on alternative ways to execute required organizational functions, it is useful in automating processes that cannot be eliminated. Advancements in technology have improved efficiencies throughout the supply chain. The feasibility of automating processes is constantly changing because technology is constantly evolving.

**EXHIBIT 17-2**

*Managerial Principles for  
Successfully Managing Change*

The second trend leading toward increased use of BPR is the pursuit of increased quality. As discussed in Chapter 8, global competition allows consumers to purchase products and services from the highest quality providers in the world. In many product and service markets, quality has become one of the most important criteria applied by consumers in purchasing decisions. BPR is a useful tool for increasing quality because it focuses attention on processes associated with poor quality and indicates ways in which quality can be improved by replacing, changing, or eliminating those processes.

The third trend resulting in increased BPR usage is the increase in price competition caused by globalization. To successfully compete on the basis of price, firms must identify ways to become more efficient and, thus, reduce costs. BPR can be used to improve efficiency, particularly when a process needs a major overhaul or a new generation of technology is needed.

Because BPR is a methodical way to revolutionize business practices, formal steps can be defined; however, creativity is an important element of the method. Exhibit 17-3 provides the steps for implementing BPR.

**EXHIBIT 17-3**

Steps to Business Process Reengineering

1. Define the objectives of the BPR project.
2. Identify the processes that are to be reengineered.
3. Determine a baseline for measuring the success of the BPR project.
4. Identify the technology levers. These are the potential sources of innovation, increased quality, increased output, and decreased costs.
5. Develop initial prototypes of the reengineered processes and then, through subsequent iterations, develop incremental improvements to the prototypes until satisfactory results are achieved.

SOURCE: Adapted from Yogesh Malhotra, "Business Process Redesign: An Overview," <http://www.brint.com/papers/bpr.htm> (1996).

Objectives of a BPR project represent the potential benefits to be realized from reengineering. All relevant technological innovations must be known so that all technological constraints and opportunities are considered. Because process reengineering is much more involved than merely automating or upgrading existing processes, creativity and vision are needed to design a prototype of the revised process.

Accountants are important participants in the BPR process because they can provide baseline performance measurements, help determine BPR objectives, and measure the achieved performance of the redesigned process. Accountants must also be aware of potential applications for newly developed software and hardware that may lead to BPR innovations.

Exhibit 17-4 provides keys to a successful implementation of BPR. The keys highlight the importance of involving customers, suppliers, and top-level managers. Involvement of customers ensures that their perspective drives the process redesign. Involvement of top managers signals the project's importance to the organization and secures the resources necessary to execute the project.

The focus of BPR is on improvement of organizational operations. Whether the issue is quality, cost, or customer value, BPR can help effect organizational improvements and change. Because BPR is designed to achieve radical changes, its impacts on organizational employees are potentially profound: layoffs and downsizing.

2

What competitive forces are driving decisions to downsize and restructure operations?

## Downsizing and Restructuring

Global competition is a fact of life in many industries and survival requires firms to continually improve product quality while maintaining competitive prices. Not all firms are able to adapt and survive under the pressures of global competition.

**EXHIBIT 17-4**

Keys to Successful Use of Process Reengineering

- ◆ *Set aggressive objectives for reengineering projects.* Objectives can be expressed in dollars, quality measurements, or other dimensions of performance.
- ◆ *Commit support of top executives to the project.* A significant time commitment ensures that the high-level support and involvement necessary to execute a successful project are available.
- ◆ *Involve customers and suppliers.* Customer and supplier considerations should drive reengineering efforts.
- ◆ *Make someone accountable for implementing reengineering efforts.* The reengineering project is more likely to be successful if a specific person oversees the implementation and is responsible for the outcome.
- ◆ *Conduct a pilot project before fully implementing the new design.* The pilot will identify problems and issues that can be resolved before full implementation is attempted.

SOURCE: Adapted from Gene Hall, Jim Rosenthal, and Judy Wade, "How to Make Reengineering Really Work," *Harvard Business Review* (November–December 1993), pp. 119–131.

Just as global competition has driven firms to higher and higher levels of quality and efficiency, competitive pressures drive some businesses out of competition altogether. Firms are now forced to evaluate which businesses they want to defend and which they are willing to sacrifice to the competition.

Many methods discussed in this chapter, including using automated technologies to replace manual ones, have proven useful in improving efficiency, effectiveness, and quality. However, as firms realize improvements they also realize additional problems. Foremost among these problems is the handling of excess personnel. Both the businesses that are striving to remain viable and those that are retreating from the competition are forced into restructuring operations and reducing the workforce.

One of the grim realities of ever-improving efficiency is that ever fewer workers are required to achieve a given level of output. Using business practices such as business process reengineering, firms are constantly restructuring operations to maintain or gain competitive advantages. Each successful restructuring leverages the work of employees into more output. At higher levels of efficiency, fewer workers are needed and a reduction in workforce is required.

**Downsizing** is any management action that reduces employment upon restructuring operations in response to competitive pressures. The accompanying News Note describes a typical downsizing and restructuring decision.

The events at Packard Bell NEC Inc. are typical of downsizing: reduction of the workforce, restructuring of jobs and processes, and reduction or elimination of noncore businesses. One study estimates that downsizing has eliminated over 3 million jobs in the United States alone since 1990.<sup>1</sup> Additionally, the recent Laborforce 2000 survey of more than 400 American-based businesses provides insight into how downsizing relates to competitive pressures facing businesses. When asked

**downsizing**

<http://www.packardbell.com>

## GENERAL BUSINESS



## NEWS NOTE

### *In the High-Tech Market, It's Eat or Be Eaten*

At a Lake Tahoe retreat last fall, Alain Couder, Packard Bell NEC Inc.'s chairman, president and chief executive officer, lectured his staff on the need to eat or be eaten in the cutthroat personal-computer industry.

In recent years, Packard Bell has found itself on the being-eaten side of the business as its share of the world's PC market has shrunk under an onslaught of competition. The PC maker has lost nearly \$1 billion over the past two years and underwent a management upheaval last summer as Mr. Couder was brought in by Japan's NEC Corp., the parent company, to attempt a turnaround.

His moves have been draconian. Each department was ordered to slash annual costs by 50%. The cutbacks have ranged from laying off nearly 40% of the company's workforce to eliminating the company suite at an arena where basketball's Sacramento Kings play. And top officials now have to pay their own medical insurance premiums like everybody else.

With PC revenue relatively stagnant despite unit-sales gains, hardware profits have roughly fallen in half over the past two years. The situation is especially grim at the retail level, where manufacturers are saddled with store costs not borne by direct and online vendors.

"People are discounting the hell out of everything and there is no going back," says Seymour Merrin, an industry consultant in Sante Fe, N.M.

The 53-year-old Mr. Couder instituted a cost-cutting campaign almost immediately upon arriving from his Paris home. "You must lead by example," he says. Seeking to achieve the 50% cost cuts, Mr. Couder reduced headcount and consolidated facilities.

SOURCE: Jim Carlton, "Computers: At Packard Bell, Survival Mode Means Big Cuts," *The Wall Street Journal* (June 3, 1999), p. B1. Permission conveyed through the Copyright Clearance Center.

<sup>1</sup> Tomasz Mroczkowski and Masao Hanaoka, "Effective Rightsizing Strategies in Japan and America: Is There a Convergence of Employment Practices?" *Academy of Management Executive* (May 1997), pp. 57-67.

what strategic issues were of greatest concern to their companies, managers indicated the following three areas<sup>2</sup>:

- global competitiveness,
- economic concerns such as a need to cut costs and improve profitability, and
- quality, productivity, and customer service.

The most common response to these strategic issues has been downsizing. Of the survey respondents, 64 percent downsized plants and facilities and slightly over 50 percent sold off some business units. The primary reason cited for downsizing was the need to reduce costs and improve profits. Seventy-five percent of the firms surveyed also made substantial investments in advanced technology in conjunction with downsizing.

Downsizing as a response to competitive pressures can result in many risks and dangers. First, firms may find that, through rounds of layoffs, the in-house talent pool has been depleted. The collective workforce knowledge or organizational memory may have been reduced to the point that the ability to solve problems creatively and generate innovative ideas for growth is greatly diminished. Also, after downsizing, many firms have found that positions that once served as feeder pools for future top management talent have been eliminated.

Second, to survive in the presence of global competition, trust and effective communication must exist between workers and managers. Successive rounds of layoffs diminish worker morale, cause worker trust in managers to wane, and lead to lessened communication between workers and managers. Workers fear that sharing information may provide managerial insights about how to further increase productivity and reduce costs by eliminating more of the workforce. Many of the management methods discussed in this chapter depend heavily on cooperation among all employees of a firm. As indicated in Exhibit 17–2, firms that are downsizing should not concurrently attempt to implement other innovative practices.

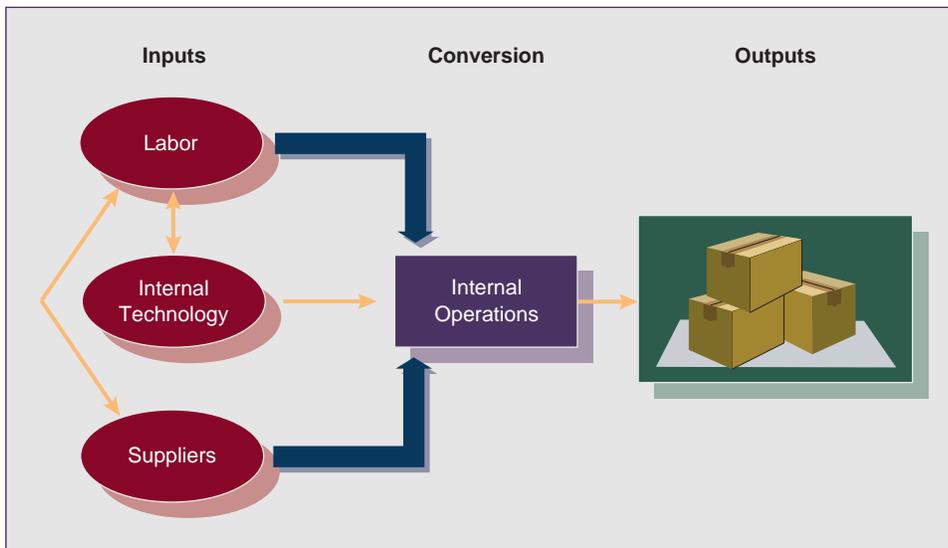
Third, downsizing can destroy a corporate culture in which lifetime employment has been a key factor in attracting new employees. Downsizing can also obliterate a corporate culture that was perceived as “nurturing” by employees. Significant negative change in an organization’s culture is likely to have an impact on employee morale and trust.

Downsizing is an accounting issue because of its implications for financial reporting and its role in cost management. The financial consequences of downsizing can be significant. When restructuring and downsizing occur in the same year, the firm often reports, in that year, large, one-time losses caused by sales of unprofitable assets and severance costs connected with employee layoffs. From a cost management perspective, accountants must understand the full consequences, both monetary and nonmonetary, of downsizing. Before recommending downsizing to improve organizational efficiency, accountants should examine the likely impacts on customer service, employee morale and loyalty, and future growth opportunities.

Exhibit 17–5 provides a framework for analyzing downsizing decisions. The exhibit demonstrates that strategic decisions affect the manner in which inputs, such as labor, technology, purchased material, and services, are converted into outputs for customers. Downsizing involves a change in the mix of inputs used to produce outputs. Downsizing increases the emphasis on technologically based conversion processes and reduces the emphasis on manual conversion processes and, thus, the labor requirement. The two-directional arrow shows increased outsourcing from suppliers and increased dependence on technology as substitutes for labor.

The financial analysis of the downsizing decision is complex. The decision relies on comparing cost savings from reduced labor costs to be generated in the future to the current outlay for restructuring and acquiring additional technology. The

<sup>2</sup> Philip H. Mirvis, “Human Resource Management: Leaders, Laggards, and Followers,” *Academy of Management Executive* (May 1997), pp. 43–56.

**EXHIBIT 17-5**

*The Value Chain and Cost Management*

capital budgeting methods discussed in Chapter 14 should be applied to this decision. If downsizing involves asset sales, the financial analysis must compare the cash to be realized from the sale to the annual net revenues or net cash flows that will not be realized in the future because of the asset reduction. Capital budgeting tools provide managers with information about how downsizing is likely to affect profitability and the return on invested capital.

### Workforce Diversity

Under the pressure of global competition, many firms have expanded operations geographically. By sourcing and marketing worldwide, firms are able to develop new markets, reduce input costs, and manage the effects of peaks and valleys in local economies. The globalization of operations presents managers with new opportunities and challenges.

3

Why are the operations of many firms becoming more diverse and how does the increasing diversity affect the roles of the firms' accounting systems?



*Diversity policies in an organization help recruit and retain top talent. The issue is so important in business that there's even a Web site devoted to it: [www.DiversityInc.com](http://www.DiversityInc.com).*

With widespread manufacturing and other operations, companies find that their employees have very divergent religions, races, values, work habits, cultures, political ideologies, and education levels. As the accompanying News Note indicates, such differences are reflected in business practices.

The diversity across countries is evident within companies that operate globally. Corporate policies and information systems must adapt to the changing workforce and greater diversity of operations, which often results in accounting's having a larger role in managing operations. Although different languages and cultures can impede unambiguous communication within globally dispersed operations, accounting information can be a powerful coordinating mechanism. The interpretation of accounting information need not be dependent on local culture or language. Accounting concepts, tools, and measurements can be the media through which people of diverse languages and cultures communicate. Accounting provides an ideal international technical language because it is a basic application of another universal language—mathematics.

Managing a global business, as opposed to one that operates in a single country, involves many considerations in addition to coordinating employees. Global businesses must consider country differences in currency values, labor practices, political risks, tax rates, commercial laws, and infrastructure such as ports, airports, and highways. These considerations require development of new systems and controls to manage risks and exploit opportunities.

<http://www.veba.de>  
<http://www.viag-interkom.de>

## NEWS NOTE



## ETHICS

### *Is It Just a Little White Lie?*

FRANKFURT—Veba AG and Viag AG announced plans on Monday to merge in a 13.4 billion euros deal that would create Germany's largest utility company. But can we really take their word for it? These are, after all, the same companies that repeatedly denied throughout the dog days of August 1999 that they were in merger talks. Consider two categorical assertions:

"There are no merger negotiations with Viag," a Veba spokeswoman told journalists who phoned the company's Duesseldorf headquarters on August 19, three days after German antitrust watchdogs confirmed that Veba and Viag officials had paid them a joint visit.

"Everyone is talking to everyone," a Viag spokeswoman echoed that day. "The talks don't have the character of negotiations."

While Viag didn't respond to repeated requests to comment on the apparent fib, Veba is far from apologetic. "A denial basically means we don't want to say anything," explains Veba spokeswoman Marie-Luise Wolff. "In Germany, a 'no comment' amounts to a confirmation of talks. The resulting rumors send the stock price up like crazy and it's a really bad situation."

"If a company falsely denies its takeover plans, we see that as misleading investors," says David Sirignano, associate director for the international division of corpo-

ration finance at the U.S. Securities and Exchange Commission. "And that applies to all companies that trade in the U.S. When a company's securities are trading in the public market, people make trading decisions based on the available information about the company," he says. "Normally, information about a merger is considered very material."

In the U.K., rules are equally stringent. If a company's stock price starts to move considerably on market speculation, the London Stock Exchange will order the company to say something promptly if the rumors are true. If they're not, the company doesn't have to deny them. "Reasonable things we'll tolerate," a spokesman says, "but not ducking."

In Italy, the stock market regulator Consob asks companies to make a statement under the same circumstances, first informally, and if it doesn't respond in an hour, via a formal request. But the rules give companies a lot of room for ambiguity. "It can often be a lot of smoke," says one Consob official.

SOURCE: Dagmar Aalun and Vanessa Fuhrmans, "When Firms Talk About Mergers, Truth Is 1st Casualty," *The Wall Street Journal Online* (September 28, 1999). Permission conveyed through the Copyright Clearance Center.

Within the United States, there is a trend to increase workplace diversity. The trend is partly driven by legal requirements and business initiatives to increase opportunities for minorities and is partly driven by organizational self-interest. Exhibit 17-6 provides reasons, other than legal requirements, that firms may seek a more diverse workforce. Unfortunately, this trend can be problematic in light of other business practices discussed in this chapter. Business process reengineering and downsizing diminish the opportunity to diversify and become more responsive to the marketplace.

A diverse workplace is one significant change in the social structure of business. Technology plays a major role in the communication among employees that is necessary to harmonize their actions to serve customers. The integration of information systems is accomplished with enterprise systems.

## ENTERPRISE RESOURCE PLANNING SYSTEMS (ERP)

As the capabilities of personal computers (PCs) and minicomputers have increased, their use has proliferated within firms. Firms now commonly use networked PCs to handle the information management requirements of specific functions, such as finance, marketing, and manufacturing. The PC allows maximum user flexibility in accessing and manipulating data in real time. However, with the increased use of PCs and local-area networks has come the decentralization of information.

As data management and storage have become more decentralized, firms have lost both the ability to integrate information across functions and to quickly access information that spans multiple functions. Exhibit 17-7 shows how internal processes and functions are distributed across the supply chain and the lack of information integration.

**Enterprise resource planning (ERP) systems** are packaged software programs that allow companies to (1) automate and integrate the majority of their business processes, (2) share common data and practices across the entire enterprise, and (3) produce and access information in a real-time environment.<sup>3</sup>

Exhibit 17-8 demonstrates a solution to the problem of nonintegrated, non-centralized information. Implementing an ERP system should help a company to provide customers with the highest quality products and best possible service. In theory, the ERP system should link the customer end of the supply chain with all functional areas responsible for the production and delivery of a product or service all the way upstream to suppliers. Increasingly, the front end of the business (the area that deals directly with customers) will allow customers to access all necessary data about their orders through the Internet. The following quote describes

4

What benefits do firms hope to attain by adopting enterprise resource planning systems?

**enterprise resource planning (ERP) system**

### EXHIBIT 17-6

*Why Self-Interested Firms Seek a Diverse Group of Employees*

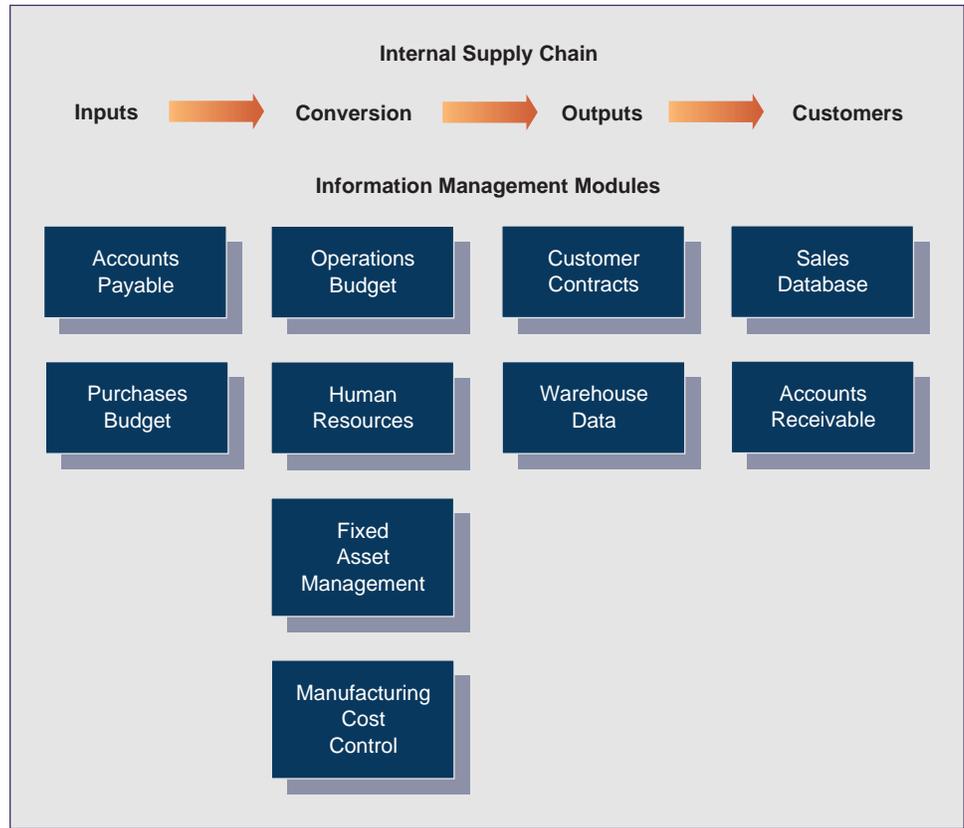
1. *Increase market share.* A more diverse workforce connects to a more diverse market.
2. *Decrease costs.* Increased diversity leads to lower employee turnover.
3. *Increase productivity.* A heterogeneous group is more creative than a homogeneous group.
4. *Improve management quality.* A more diverse employee pool yields more management talent.
5. *Improve recruiting efforts.* Fewer worker/talent shortages affect firms that recruit from the broadest possible future employee pools.

SOURCE: Ann Morrison, *The New Leaders: Guidelines on Leadership Diversity in America* (San Francisco: Jossey-Bass, 1992), pp. 20-27. Copyright 1992. Reprinted by permission of Jossey-Bass, Inc., a subsidiary of John Wiley & Sons, Inc.

<sup>3</sup> Win G. Jordan and Kip R. Krumwiede, "ERP Implementers Beware!" *Cost Management Update* (March 1999), p. 1.

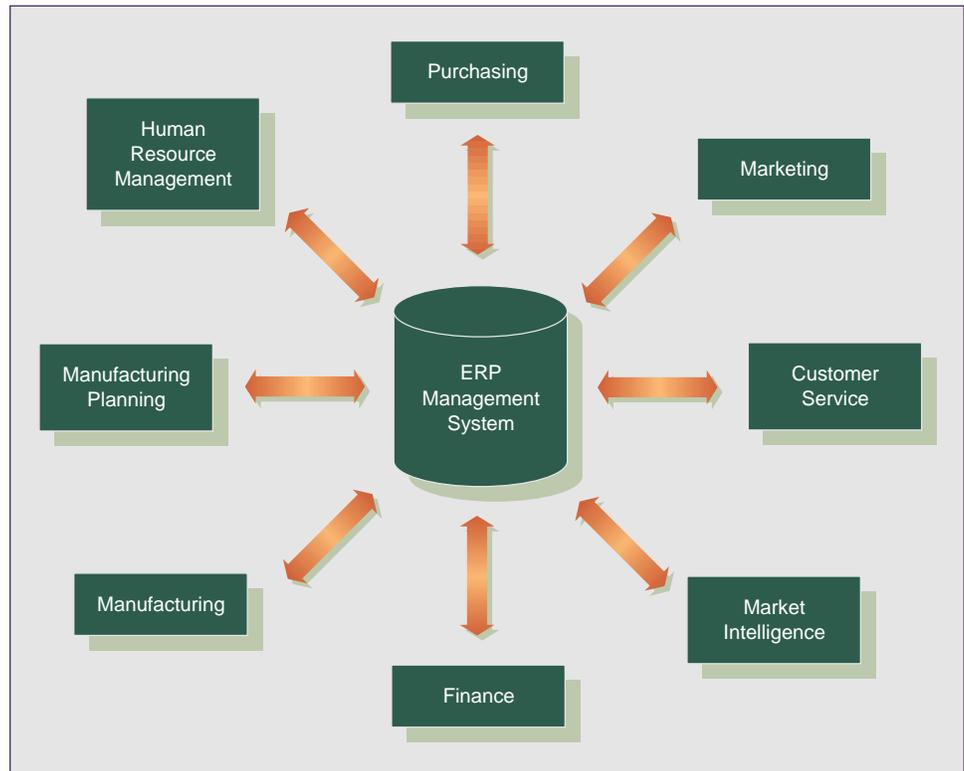
**EXHIBIT 17-7**

*Internal Supply Chain and Traditional Information Management*



**EXHIBIT 17-8**

*Enterprise Resource Planning Information Management*



the benefits from ERP implementation for the whole business, its marketing function, and its customers<sup>4</sup>:

*The benefits of an ERP package to a business are in reduced overheads, improved customer service and better quality, and more timely management information. Reduced overheads should be achieved through the elimination of duplication of effort in duplicate keying and reconciliation of independent systems. Better management information becomes available when all company information is held in one database which can be queried to provide quality reports on margins broken down by customer, product, rep, area, etc. E-commerce has the potential to offer a quantum leap in customer service by giving the customer direct access to your systems.*

ERP's key concept is a central depository for all organizational data so that they are accessible in real time by and in an appropriate format for a decision maker. Data are entered into the central depository through a series of modules. Usually 30 or more modules are required to complete an ERP installation.<sup>5</sup> Exhibit 17-9 provides a list of typical modules included in an ERP system.

#### **Finance Function** (bookkeeping, paying bills, collecting cash)

**General ledger:** Keeps centralized charts of accounts and corporate financial balances.

**Accounts receivable:** Tracks payments due the company.

**Accounts payable:** Schedules bill payments.

**Fixed assets:** Manages costs related to property, plant, and equipment.

**Treasury management:** Monitors and manages cash holdings and investment risks.

**Cost control:** Analyzes costs related to overhead, products, and customers.

#### **Human Resources Management** (personnel-related tasks)

**Human resources administration:** Automates processes such as recruitment, business travel management, and vacation allotments.

**Payroll:** Handles accounting and preparation of checks to employees for salary and bonuses.

**Self-service HR:** Lets workers select benefits and manage their personal information.

#### **Manufacturing and Logistics**

**Production planning:** Performs capacity planning and creates a daily production schedule.

**Materials management:** Controls purchasing of materials and manages inventory.

**Order entry and processing:** Automates entry of customer orders and tracks their status.

**Warehouse management:** Maintains records of stored goods and follows their movement through warehouses.

**Transportation management:** Arranges, schedules, and monitors delivery of products to customers.

**Project management:** Monitors costs and work schedules on a project-by-project basis.

**Plant maintenance:** Sets plans and oversees upkeep of facilities.

**Customer service management:** Administers service agreements and checks contracts and warranties when customers contact them.

SOURCE: Computerworld (www.computerworld.com) September 14, 1998. Reprinted with permission.

### **EXHIBIT 17-9**

*Typical Modules in an ERP Installation*

<sup>4</sup> Paddy White, "ERP: The Big Company Solution for Small Companies," *Accountancy Ireland* (August 1999), p.4.

<sup>5</sup> Ibid.

The ERP system is an extension of earlier software packages. Manufacturing resource planning (MRP and MRP II) programs were designed to control and coordinate the production process. MRP systems generated master production schedules, coordinated ordering of materials necessary to meet the schedule, and projected labor inputs necessary to complete conversion.

By having organizational data in a common depository, new insights can be gained from data analysis. For example:

*[A] music chain learned that people older than 65 bought many rap and alternative music CDs. These buyers had not changed their tastes for music: they were buying Christmas presents for their grandchildren. A target marketing program to this group increased sales by 37%.*

*[Additionally,] a 600-store office supply company was able to substantially improve its return on personal computer sales. [The system] allowed management to calculate gross margin by store and product type. This showed that some stores carried too much slow-moving stock. To eliminate unnecessary inventory and future write downs, the company reduced its PC assortment from 22 products to 12.<sup>6</sup>*

Installation of an ERP system impacts the finance function in three significant ways. First, finance and system specialists will bear the responsibility of selecting and installing the software. ERP software includes brand names such as SAP, R/3, PeopleSoft, and Baan. Installing an ERP system in a large company involves thousands of hours of labor and millions of dollars of capital. The accompanying News Note provides a flavor of the complexity in information technology decisions.

<http://www.SAP.com/>  
<http://www.peoplesoft.com/>  
<http://www.baan.com>  
<http://www.bridgestone-firestone.com>  
<http://www.toyota.com>

## NEWS NOTE



## GENERAL BUSINESS

### **E-Biz and ERP**

Tire-maker Bridgestone/Firestone may not be selling radials over the Web, but that does not mean that electronic business is not shaking up its industry.

“As competition heats up any business, one of the key things you can do is not only provide what the customer wants, but when [the customer] wants it and faster than you could before,” Gary Larson, a senior computer engineer, says above the whirring sounds of Bridgestone/Firestone’s tire plant in Aiken, S.C. “That’s what we’re driving for.”

IT executives in the manufacturing industry, many of whom have an opportunity to look up from years of enterprise resource planning (ERP) implementation, are discovering the new rigors of the fast-paced, customer-driven Internet age. As a result, manufacturers are optimizing operations via better integrated IT and production systems and are extending these systems down the supply chain and to their customers.

“E-business has raised the bar for speed for all of us,” says Andy Chatam, president of ARC Advisory Group, a

manufacturing industry consultancy in Dedham, Mass. “Customers have come to expect much better service than in the past.”

For further evidence of the need for speed in manufacturing, consider industry-leader Toyota, which revealed in August 1999 new, sophisticated manufacturing computer systems that allow the company to produce a car within five days of a customer’s order.

But plowing millions of dollars and thousands of work-years into new systems to address business imperatives, such as instantly giving customers a ship date on an order, is unthinkable to shell-shocked IT groups—and a tough sell to CEOs. Instead, manufacturers are leveraging massive ERP investments to increase efficiency and flexibility.

SOURCE: LaMonica Martin, “Life after ERP: E-Business Shakes up the Manufacturing Industry with a Push for Optimization and Supply-Chain Integration,” *InfoWorld* (August 16, 1999), p. 24.

<sup>6</sup> Ibid.

Second, finance specialists will bear the responsibility of analyzing the data repository to support management decisions. Data analysis often involves “drilling down” from aggregate data (such as total sales for the firm) to detailed data (such as sales by store) to identify market opportunities and to better manage costs. For example, this type of analysis may explain why a certain product moves well at some stores but not at others.

Analysis may also involve **data mining**, which uses statistical techniques to uncover answers to important questions about business operations.<sup>7</sup> Data mining is useful to uncover quality problems, study customer retention, determine which promotions generate the greatest sales impact, and identify cost drivers.

**data mining**

ERP installation places a burden on finance specialists to maintain the integrity of the data depository. Fulfilling this obligation requires accountants and other specialists to monitor the ERP modules and to be confident that the system successfully converts raw data into the standardized format required for the main depository. Also, the finance specialists are accountable for integrating externally purchased data (such as industry sales data and other external intelligence) with internally generated data.

ERP systems represent a generational leap in the gathering, processing, and analysis of information. As ERP systems are increasingly integrated into Internet-based technology, customers will have ease of access to a worldwide marketplace. In turn, customer-driven competition will cause firms to continually seek innovative ways to attract potential customers. These innovations are often obtained through strategic efforts that combine the talents and capabilities of two or more firms.

## STRATEGIC ALLIANCES

In the usual supply chain structure, there are clear distinctions between supplier and customer firms—there are no fuzzy boundaries where one firm ends its contribution to the supply chain and another begins its contribution. However, in some instances, companies have incentives to develop interorganizational agreements that go beyond normal supplier/customer arrangements. Generically, these agreements are called strategic alliances. CarPoint is an illustration of a **strategic alliance**—an agreement, involving two or more firms with complementary core competencies, to jointly contribute to the supply chain.

Strategic alliances can take many forms including joint ventures, equity investments, licensing, joint R&D arrangements, technology swaps, and exclusive buyer/seller agreements.<sup>8</sup> A strategic alliance differs from the usual interactions among independent firms in that the output is joint and the rewards of the joint effort are split among the allied firms.

The News Note on page 776 describes an alliance between a giant telecommunications firm in Europe and AT&T in the United States. The alliance is typical of many others: It involves the exploitation of technology, has partners with access to different markets, and allows sharing of risks and rewards. The use of strategic alliances to exploit or create business opportunities is pervasive. The quote that follows portrays the economic significance of alliances and the challenges in measuring the frequency of their use<sup>9</sup>:

*In Silicon Valley and Hollywood, alliances are old hat: in a sense, almost every movie is an ad-hoc alliance, as is the development of every new computer chip. But, as in so much else, these two fashionable places are proving models for older industries. The most obvious change is in the sheer number of alliances.*

5

Why are firms increasing their use of strategic alliances?

**strategic alliance**

<http://www.att.com>

<sup>7</sup> Ibid.

<sup>8</sup> T. K. Das and Bing-Sheng Teng, “Resource and Risk Management in the Strategic Alliance Making Process,” *Journal of Management* (January–February 1998), p. 21.

<sup>9</sup> Anonymous, “Mergers and Alliances,” *The Economist* (May 15, 1999), p. 73.

<http://www.bah.com>

*Mergers, like marriages, can be legally defined and therefore readily counted. Alliances are more like love affairs: they take many forms, may be transient or lasting, and live beyond the easy reach of statisticians. But one recent book by John Harbison and Peter Pekar of Booz-Allen & Hamilton, a consultancy, estimated that more than 20,000 alliances were formed worldwide in 1996–1998. And they account for a rising share of corporate revenue: doubling since the early 1990s to 21% of the revenues of America's 1,000 largest firms in 1997, according to Mr. Harbison. In Europe, he reckons, the figure is in "the high 20s."*

In a typical strategic alliance a new entity is created, and in the process important decisions are made. In structuring the new entity, the contributions required of the parent organizations must be determined. Beyond simply contributing cash, many new ventures will require inputs of human capital, technology, access to distribution channels, patents, and supply contracts.

Further, a governing board or set of directors must be established and agreement must be reached as to how many directors can be appointed by each parent. The composition of the governing board will determine which of the parent entities is more influential in directing the management of the new entity.

Simultaneous agreements must be executed to stipulate the rights of the parents in sharing gains and specify obligations for bearing losses. Such agreements will have significant implications for the risks borne by the parent organizations.

An overriding concern in designing a strategic alliance is aligning the interests of the parent organizations with the new entity. The alliance is likely to work only if both parent organizations perceive they are receiving adequate value for their contributions. This caveat is especially true today when many strategic alliances involve agreements between competitors.

<http://www.bt.com>  
<http://www.vodafone.co.uk>  
<http://www.airtouch.com>  
<http://www.hutchison-whampoa.com>

## NEWS NOTE



## INTERNATIONAL

### **Cell Phone Competition Rings Up a New Strategy**

British Telecommunications PLC and AT&T Corp. formed an alliance to sell mobile-phone service around the world, intensifying the competitive battle with the newly merged Vodafone-AirTouch team.

The move falls far short of a merger of the two telecommunication companies' mobile operations, which serve about 41 million customers in 17 countries, including their share of customers from minority interests. But BT and AT&T expect the arrangement will help them attract more roaming fees, save on cost of buying equipment and make it easier to offer one-stop shopping for roving corporate customers.

The agreement signals the gradual transformation of local wireless wars into international face-offs. Partly because they want to better serve multinational customers, wireless companies are increasingly trying to extend their reach. Leading the pack is Vodafone Group PLC, which acquired AirTouch Communications Inc. of the U.S. and created a giant company with operations in the U.S. and much of Europe. Now BT and AT&T are moving in the same direction. And there is Hutchison Whampoa Ltd. of

Hong Kong, which owns direct or indirect stakes in wireless companies in Asia, Australia, Britain, continental Europe and the United States.

The BT-AT&T arrangement is aimed at everyday customers who want to use their phones everywhere. One of the frustrations for roving U.S. subscribers is that they can't use their mobile phones when traveling in Europe, and vice versa. That is because the wireless networks of the two continents use different technologies and are incompatible.

BT of London and New York's AT&T hope to get around this problem by offering a two-phone package to users early next year. One device will work in the home market; the other can be carried across the Atlantic and will work using the original phone number and voice-mail system. The next step—a single device that works on AT&T's and BT's network—won't be available for 12 to 18 months, according to BT.

SOURCE: Adapted from Gautam Naik and Rebecca Blumenstein, "BT, AT&T Plan a Global Mobile-Phone Service," *The Wall Street Journal* (September 17, 1999), p. B2.

Establishing strategic alliances involves a series of complex decisions that are based on inputs from many functional specialists. For example, the financial professional must assess risk and develop strategies for its management. These experts must also design a financial structure, develop management control systems, and install accounting and other information systems. The execution of a strategic alliance is as involved as the establishment of any new business. Virtually every tool and concept discussed in this text applies to some facet of managing an alliance; these include cost management systems, product costing systems, cost allocation, inventory management, decision making, and performance evaluation.

The theme evident throughout this chapter of the technology evolution on management practices and the activities of the finance professional is followed in the next section with a discussion of how technological and other organizational changes are affecting nonprofessional workers and of how finance professionals have been pressured to develop ways to convey information to those without technical finance and accounting expertise.

## OPEN-BOOK MANAGEMENT

**Open-book management** is a philosophy about increasing a firm's performance by involving all workers and by ensuring that all workers have access to operational and financial information necessary to achieve performance improvements. Although no specific definition of open-book management exists, it has some defined principles. Firms practicing open-book management typically disclose detailed financial information to all employees, train them to interpret and use the information, empower them to make decisions, and tie a portion of their pay to the company's bottom line.<sup>10</sup> The application of this philosophy is appropriate in decentralized organizations that have empowered employees to make decisions. Proponents of open-book management argue that the approach helps employees understand how their work activities affect the costs and revenues of the firm. With this understanding, employees can adopt or change work practices to either increase revenues or decrease costs.

However, merely opening the financial records to a firm's employees will neither necessarily solve any problems nor improve anyone's performance. Most employees, particularly nonmanagerial workers, neither have developed skills in interpreting business financial information nor understand accounting concepts and methods. Even many highly educated functional specialists have little knowledge of how profits are generated and performance is measured in financial terms. The key to understanding is training. Springfield Remanufacturing, a recession-era spin-off of General Motors, first introduced the concept of open-book management. Gary Brown, human resources director at Springfield Remanufacturing, has written about the learning curve for nonfinancial workers to become financially literate<sup>11</sup>:

*Brown estimates that it generally takes two years for people to become financially literate (two iterations of the planning cycle). However, formal financial education and training is not the major expense, nor does training consume the most time, according to Brown. He emphasizes that the most valuable learning takes place in the "buddles" and when employees study the figures by themselves. An exceptionally motivated employee who does a great deal of self-study may become financially literate in six months.*

If financial information is to be the basis of employee decision making, the information must be structured with the level of sophistication of the decision maker

6

What is open-book management and why does its adoption require changes in accounting methods and practices?

**open-book management**

<http://www.gm.com>

<sup>10</sup> Edward J. Stendardi and Thomas Tyson, "Maverick Thinking in Open-Book Firms: The Challenge for Financial Executives," *Business Horizons* (September–October 1997), p. 35.

<sup>11</sup> Tim Davis, "Open Book Management: Its Promises and Pitfalls," *Organizational Dynamics* (Winter 1997), p. 13.

in mind. Providing such information requires accountants to become much more creative in the methods used to compile and present financial data. Some common principles of open-book management are provided in Exhibit 17–10.

Effective open-book management requires sharing accounting and financial information with employees who have little knowledge of accounting concepts. Games can be used to teach these concepts to financially unsophisticated employees.

## Games People Play

Games make learning both fun and competitive while allowing for complex financial practices to be simplified. To illustrate how games can be used in open-book management, assume that Northside Building Systems, a manufacturer of steel doors and frames, has decided to implement open-book management concepts. One of its key departments is Assembly.

Assembly is responsible for combining components of various models of doors and frames into finished products. Most of the components that are required for assembly are manufactured in other departments of the company.

Assembly employees consist of one manager and 10 workers. All workers are highly skilled in the technical aspects of assembling door and frame components; however, none of the workers knows anything about financial management or accounting techniques. For these workers, the game must begin with very simple accounting principles. The outcomes of the game, as determined by financial and nonfinancial performance measurements, must be easy to comprehend and must be easily related to the motivation for establishing the game—for example, to maximize firm profit, maximize customer satisfaction, and maximize shareholder value.

The data in Exhibit 17–11 pertain to one product, an economy garage door, that passes through Assembly. These data have been provided by the controller of Northside and have been gathered from production and accounting records for the most recent month.

In designing a system to provide information to the Assembly Department employees, the starting point is to determine the objectives of the system. Reasonable initial design objectives include

- causing Assembly Department employees to understand how their work affects achievement of corporate objectives;
- making Assembly Department workers understand how their work affects upstream and downstream departments; and
- generating demand from the employees for information and training that leads to improvements in performance in the Assembly Department.

### EXHIBIT 17-10

*Ten Common Principles of Open-Book Management*

1. Turn the management of a business into a game that employees can win.
2. Open the books and share financial and operating information with employees.
3. Teach the employees to understand the company's financial statements.
4. Show employees how their work influences financial results.
5. Link nonfinancial measures to financial results.
6. Target priority areas and empower employees to make improvements.
7. Review results together and keep employees accountable. Regularly hold performance review meetings.
8. Post results and celebrate successes.
9. Distribute bonus awards based on employee contributions to financial outcomes.
10. Share the ownership of the company with employees. Employee stock ownership plans (ESOPs) are routinely established in firms that practice open-book management.

SOURCE: Tim Davis, "Open-Book Management: Its Promises and Pitfalls," *Organizational Dynamics* (Winter 1997), pp. 6–20. Copyright (1997), with permission from Elsevier Science.

**EXHIBIT 17-11**

*Economy Garage Door  
Assembly Department Cost Data*

Item	Quantity	Unit Cost	Total Cost
Door panels	6	\$ 5.00	\$ 30.00
Door frame			
Top	1	7.00	7.00
Bottom	1	8.00	8.00
Sides	2	4.00	8.00
Panel connectors	24	2.00	48.00
Bolts	96	0.10	9.60
Nylon bushings	96	0.03	2.88
Total direct material			<u>\$113.48</u>
Direct labor	2 hours	12.00	24.00
Total direct costs			<u><u>\$137.48</u></u>

Because overhead is a more difficult cost to comprehend, relative to direct material and direct labor, information on overhead costs may be excluded from the initial system that is developed for assembly employees. Direct material and direct labor will be the information focus. Further, because employees can exert no control over the price of materials purchased or the labor rate paid per hour, these data might be presented at budgeted or standard, rather than actual, cost. If presented at actual cost, variations in purchase prices occurring throughout the year might disguise other more important information from the financially unsophisticated workers (e.g., quantities of materials consumed). If desirable, a more sophisticated system can be developed once the workers fully understand the initial system.

One of the motivations for providing information to the assembly workers is to cause the workers to understand how their actions affect achievement of the overall corporate objectives. To initiate this understanding, management can establish a sales price for the output of the Assembly Department. Assume the initial price for the assembled economy door is set at \$150; it is not necessary for the established sales price to represent actual market value. It is important that a sales price be established so that a measure of the department's contribution to corporate profits can be established. For the assembly workers, the per-unit profit calculation is as follows:

Sales price	\$150.00
Direct costs (from Exhibit 17-11)	<u>(137.48)</u>
Profit contribution	<u>\$ 12.52</u>

Total profits equal per-unit profit multiplied by the number of units produced. Workers will soon realize as they analyze this simple profit calculation that they can increase profits by decreasing costs or by increasing the number of units made. However, because the information contains no quality effects, some elementary quality information could be added. For example, quality defect costs could be charged to the Assembly Department. An income statement for the Assembly Department for a period would then appear as follows:

Sales	\$XXXXXX
Direct costs	(XXXXXX)
Rework and defects	<u>(XXXX)</u>
Profit contribution	<u>\$ XXXX</u>

With this profit calculation, workers will comprehend that profit maximization requires maximization of output, minimization of direct costs, and minimization of quality defects.

One Japanese company, Higashimaru Shoyu, a maker of soy sauce, has gone so far as to create its own internal bank and currency.<sup>12</sup> Each department purchases its required inputs from other departments using the currency and established transfer prices. In turn, each department is paid in currency for its outputs. The flow of currency reinforces the profit calculations applying to each department.

To exploit the financial information they are given, workers should be educated about ways to improve profits. The “game” of trying to increase profits serves as motivation for workers to learn about cost and operational management methods. By relating the training to the game, its relevance is immediately obvious to the workers and they will seek training to help them both understand how to read and comprehend a simple income statement, and to identify approaches that can be used to improve results.

## Motivating Employees

It cannot be assumed that the assembly workers are internally motivated to play the game well. Instead, the game should be promoted by upper management. The obvious way to motivate workers to use the information that they receive to improve profits is to link their compensation to profits. Workers in the Assembly Department could be paid bonuses if profits are above a target level. Alternatively, the workers could be paid a bonus that is a percentage of profits. In either case, the linkage of compensation to profits is a necessary step to motivate workers to have an interest in the game and to improve their performance. The positive effects of a good bonus program are described in the following quotation<sup>13</sup>:

*Open-book management works only if it is accompanied by adequate incentives. “People start to back away if they don’t have some sort of reward. In effect, you are asking people to take on ownership behaviors, but not treating them like owners. That’s like getting to smell lunch, but not being allowed to taste it,” says [Corey] Rosen of the National Center for Employee Ownership. “If people don’t have a stake in the company, why should they care?”*

*Some companies offer performance-based bonuses and others lean toward employee stock ownership plans (ESOPs). For short-term bonuses, at AmeriSteel, for example, employees can earn up to one-fifth of their total compensation based on performance measures specific to their operation. Mill-employee incentives are tied to tons of finished steel produced, while marketing-personnel incentives are tied to sales volume. In addition, employees are awarded six options for every share of AmeriSteel they purchase.<sup>13</sup>*

Pay and performance links can be based on more specific data also. For example, measures can be devised for on-time delivery rates (to the next downstream department), defect rates, output per labor hour, and other performance areas to make workers aware of how their inputs and outputs affect other departments and financial outcomes. All critical dimensions of performance including costs, quality, and investment management can be captured in performance measurements. And, as illustrated in the accompanying News Note, games can be devised to encourage learning by workers.

Once the workers have become accustomed to receiving financial and other information to manage their departments, more elaborate information systems can be developed as the sophistication of the information consumers (workers) evolves. For example, once the direct labor, direct material, and quality costs are understood, workers in the Assembly Department can learn to evaluate overhead cost information.

<sup>12</sup> Robin Cooper, *When Lean Enterprises Collide (Competing Through Confrontation)* (Boston: Harvard Business School Press, 1995).

<sup>13</sup> Julie Carrick Dalton, “Between the Lines,” CFO: The Magazine for Senior Financial Executives (Vol. 15, No. 3, March 1999), p. 61. © 1999 CFO Publishing Corporation. Reprinted with permission.

<http://www.ameristeel.com>

<http://www.foldcraft.com>

## GENERAL BUSINESS



## NEWS NOTE

**Learning by Earning**

The open-book management style of Foldcraft Co. is evident at the company's monthly employee meetings. Dubbed "ESOP Huddles," the one-hour meetings consist of a financial review, followed by a question-and-answer period which includes contests.

In the first half hour, managers essentially "build the financial statement," including sales, expenses and profits. This financial reporting segment of the meeting covers results for the month completed and projects those of the next month.

The Q&A period in the second half-hour takes a more playful approach. First, any non-manager employee who asks a question receives \$1 and a ribbon.

Next, there is a drawing of employee questionnaires which were distributed at the outset of the meeting. The first employee whose questionnaire is drawn and found to have answered correctly three questions about the

company receives \$50. The drawing gives managers a chance "to revisit the questions" and make sure that all employees hear the correct answers in a context that is more compelling.

The final game at the meeting is called "Pass or Play." Employees' names are drawn randomly. These employees then are asked another question—almost always financially oriented—about the company. They then have the opportunity to "pass" on the question if they don't know the answer, or "play" if they think they do. If they play and get the right answer, they receive \$100. Other than potential embarrassment, there is no penalty for a wrong answer or a "pass."

SOURCE: Staff, "Information-Sharing, Games Motivate Employee Owners," *PR News* (April 22, 1996), not paged.

**Implementation Challenges**

Open-book management can be difficult to implement. Characteristics of firms that are best suited to a successful implementation include small size, decentralized management, a history of employee empowerment, and the presence of trust between employees and managers. In small firms, employees can more easily understand how their contributions influence the bottom-line performance of the organization. Firms with decentralized structures and empowered employees have workers who are accustomed to making decisions. Trust among employees and managers is necessary for games to be devised that result in higher pay and greater job satisfaction for all employees.

Accountants face unique challenges in implementing open-book management in even the most favorable environments. The challenges are present in both the obstacles to be overcome and the innovations in reporting to be designed and implemented.

One significant obstacle to overcome in most organizations is a history of carefully guarding financial information. Even in publicly owned organizations that are required to release certain financial information to the general public, top managers have historically limited access of employees to financial data that the top managers regard as sensitive. Accountants have historically viewed themselves as the custodians of this sensitive information rather than the conveyors. To successfully implement open-book management, accountants must develop an attitude about information sharing that is as fervent as traditional attitudes of information guarding.

Accountants have been grounded in higher education courses and other training to expertly compile information according to prescribed rules of financial accounting, and they have generally operated under the assumption that users of financial information have an adequate understanding of the rules used to compile financial data. However, open-book management requires dissemination of accounting data

to users who have little understanding of accounting conventions and rules. Thus, accountants must develop methods of conveying accounting information such that it will be understood by unsophisticated users. Further, because a sophisticated user of financial data is better able to use information in decision making than an unsophisticated user, accountants must assume roles as teachers as well as information disseminators. By teaching users to become more sophisticated consumers of financial information, accountants facilitate better organizational decision making.

Accountants must also be innovative to implement open-book management. One significant requirement is the development of information systems that are capable of generating information for an organizational segment in a format that can be understood by employees of that segment. Thus, the information system must be designed to be sensitive to the financial sophistication of the user.

Similarly, performance measures must be devised that can be understood by employees. The measures must capture the actual performance relative to the objectives of organizational segments and the organization as a whole. The objectives may be stated in terms of performance of competitors or industry norms. For example, an objective of a firm may be to surpass the average product quality level of the industry. Measurement of actual achievement relative to this objective requires accountants to develop information systems that are focused on gathering nontraditional types of information—in this instance, quality level of output in the industry.

Finally, because principles of open-book management include involving all employees and measuring and rewarding their performance, measures must be devised that can be integrated across segments and functional areas. For example, if one of a firm's major objectives is to increase profitability, performance measures must be devised for engineers, accountants, production workers, administrators, janitors, etc., that cause all of these functional groups to work toward a common end: increased profits.

An emerging area of concern for managers, in nearly all operating environments, is the impact of their operations on the environment. The concerns have arisen as a result of a greater consciousness of environmental issues and new governmental regulations enacted to protect the environment.

## ENVIRONMENTAL MANAGEMENT SYSTEMS

7

What are the three generic approaches firms can take in controlling environmental costs?

The impact of organizations on the environment is of increasing concern to governments, citizens, investors, and businesses. Accountants are increasingly concerned with both measuring business performance with regard to environmental issues and management of environmental costs. In the future, investors are likely to evaluate a company's environmental track record along with its financial record when making investment decisions.

Management of environmental costs requires that environmental issues be considered in every aspect of operations. For example, environmental effects are related to the amount of scrap and by-products produced in manufacturing operations, the materials selected for product components (recyclable or not), the actions of suppliers who produce necessary inputs, and habits of customers in consuming and disposing of products and packaging. In short, environmental issues span the entire value chain.

There are three generic strategies for dealing with environmental effects of operations; each strategy has unique financial implications. First, end-of-pipe strategies may be employed. With this approach, managers "produce the waste, or pol-

lutant, and then find a way to clean it up.”<sup>14</sup> Common tools used in this approach are wastewater cleaning systems and smokestack scrubbers.

A second strategy involves process improvements. Process improvements involve changes to “recycle wastes internally, reduce the production of wastes, or adopt production processes that generate no waste.”<sup>15</sup>

A third strategy is pollution prevention. This approach involves “complete avoidance of pollution by not producing any pollutants in the first place.”<sup>16</sup>

Although minimizing the impact of operations on the environment may be a reasonable goal, it must be remembered that some impact on the environment is unavoidable. For example, energy must be consumed to manufacture products; similarly, materials must be consumed as goods are produced. Without energy and material consumption, no goods can be manufactured.<sup>17</sup>

In the management of environmental costs, accountants must analyze environmental dimensions of investment decisions.

*In the capital investment area, accountants can help managers by including quality and environmental benefits in the analysis. If a proposed project is more energy efficient or produces less pollution than an alternative, those factors should be included in the analysis. The financial data should include any cost savings from lower energy usage. If the company must control pollution, the financial impact should be recognized.*<sup>18</sup>

Other topical managerial concerns discussed in this text and chapter embedded in the management of environmental costs include managing quality, managing research and development, and managing technology acquisition. Although the relationship between quality costs and environmental costs is not fully understood, many cases can be cited suggesting that quality and environmental costs are highly related. For example, the reduction in scrap and waste production (quality improvements) serves to reduce environmental costs and concerns (waste disposal).

Through research and development, new products and new production processes are identified, and new materials are developed. The design of new products influences (1) the types and quantities of materials to be produced, (2) the types and quantities of waste, scrap, and by-products to be produced, (3) the amount of energy to be consumed in the production process, and (4) the potential for gathering and recycling the products when they reach obsolescence.

Technology acquisition also has many impacts on the environment. For instance, technology affects energy consumption and conservation; environmental emissions; the quantity, types, and characteristics (for instance, whether the equipment is made of materials that can be recycled) of future obsolete equipment; the rate of defective output produced; the quantities of scrap, waste, and by-products produced; and the nature and extent of support activities necessary to keep the technology operating.

Exhibit 17–12 provides a checklist of considerations for the financial professional to evaluate whether a firm’s information systems provide relevant information for managing environmental costs. An analysis of the checklist will show that the financial professional must effectively gather both quantitative and nonquantitative data from both within and outside of the firm.

<sup>14</sup> German Böer, Margaret Curtin, and Louis Hoyt, “Environmental Cost Management,” *Management Accounting* (September 1998), pp. 28–30, 32, 34, 36, 38.

<sup>15</sup> *Ibid.*

<sup>16</sup> *Ibid.*

<sup>17</sup> For more information on this concept, see Frances Cairncross, *Costing the Earth* (Boston: Harvard Business School Press, 1992), p. 26.

<sup>18</sup> Harold P. Roth and Carl E. Keller, Jr., “Quality, Profits, and the Environment: Diverse Goals or Common Objectives?” *Management Accounting* (July 1997), pp. 50–55.

**EXHIBIT 17-12**

Checklist for Environmental Cost Control

### Cost Management Systems

- > How much does each of our divisions spend on environmental management?
- > Do we have consistent and reliable systems in place to measure environmental costs?
- > How does our cost management system support good environmental management decisions?
- > How do we track compliance costs?
- > How do we connect line management decisions to the environmental costs they create?
- > Which divisions manage environmental costs the best?
- > How do we compare with competitors in managing environmental costs?
- > What kinds of waste do we produce?
- > What are the proposed regulations that will affect our company?

### Cost Reporting Systems

- > Who receives reports on environmental costs in our company?
- > Does our bonus plan explicitly consider environmental costs?
- > How do we charge internal environmental costs to managers?
- > How does the financial system capture environmental cost data?
- > Do our managers have all necessary tools to measure total costs of the wastes generated?
- > Do our systems identify environmental cost reduction opportunities?

SOURCE: German Böer, Margaret Curtin, and Louis Hoyt, "Environmental Cost Management," *Management Accounting* (September 1998) p. 32. Copyright by Institute of Management Accountants, Montvale, N.J.

## REVISITING

## CarPoint

<http://www.carpoint.msn.com>

Ford's interest in CarPoint is to find a better way to connect its production operations to consumer needs. Almost all the big global automakers are scrambling to refashion their Web sites and their factories to be flexible enough to let consumers configure a car to their specific needs.

That is virtually opposite of how cars are made and sold now. Traditionally, automakers have built millions of cars with options packages based on consumer research. The problem: The research isn't perfect, leaving dealers carrying inventories of unpopular products that need profit-draining incentives to sell them.

Ford is hoping to make that system a memory with its build-to-order system that should be up and running in its earliest stages by early 2000. Toyota Motor Corp. already is working on its own build-to-order system, and General

Motors Corp. has created a new unit to oversee all of its Internet strategies, including online custom ordering.

In its earliest stages, Ford's build-to-order system will simply let consumers find the kind of car they want that has already been built and is somewhere between the factory and the dealer. Within two years, Mr. Nasser said, custom orders, which now can take as long as eight weeks, will take less time and be more flexible with paint and interior options being changed on the factory floor.

In addition to build to order, the new CarPoint site gives Ford access to three million people who go visit the CarPoint site every month. Ford's Internet strategy is to be everywhere in cyberspace, executives said, including its own Web sites, electronic communities such as iVillage.com, as well as in-car technology such as satellite navigation systems.

## CHAPTER SUMMARY

The global economy has raised the consumer to the position of ultimate arbiter of success in the marketplace. To maintain market share, find new growth opportunities, and operate profitably, firms must be innovative in satisfying customer wants. Many emerging management practices are built around the goal of increasing organizational performance by increasing customer satisfaction.

Business process reengineering (BPR) targets specific business processes for improvement. A key idea of BPR is to bring about evolutionary or generational changes in processes rather than incremental changes. Three forces that create a demand for BPR are advancement of technology, pursuit of increased quality, and increasing price-based competition.

Accountants have an important role in BPR. The success of BPR projects is assessed based on performance measures. Accountants are responsible for developing baseline measures, and comparing the baseline level measures to performance levels achieved after the reengineering is completed.

Restructuring and downsizing are irreversible actions that are monumental events in the life of an organization. These actions shake the foundations of firms and bring about cultural changes and new responsibilities for employees. Also, the role of the accounting function is affected.

To compete in a global marketplace, many firms have pursued strategies leading to global operations—operations distributed in many countries. With global operations, firms expect to gain cost and market advantages over rival firms. However, the potential cost advantage and market opportunities notwithstanding, the global enterprise creates many management challenges.

In globalizing operations, managers take on the challenges of dealing with customers, suppliers, and employees who have different languages, cultures, work practices, legal statutes, currencies, and infrastructures. Globalizing operations leads to new challenges and roles for the accounting function. Accountants play a pivotal role in coordinating the efforts of diverse employees. Accounting information can have a common meaning to employees who are geographically dispersed and who otherwise have limited, common means of communicating. Thus, accounting is the common “language” in the organization that communicates information about roles, performance expectations, achieved performance, cost management, coordination of operations, and other operational dimensions.

Enterprise resource planning (ERP) is a technological approach to tighten the connection of a firm to its suppliers and customers. Some ERP software programs allow companies to (1) automate and integrate the majority of their business processes, (2) share common data and practices across the entire enterprise, and (3) produce and access information in a real-time environment. The drive to adopt ERP is partially driven by the advancing Internet technology that allows consumers a new ease-of-entry into the front door of businesses.

Cooperative interorganizational agreements are common in the global market and take many forms in addition to those of the traditional vendor/customer. Some common examples include strategic alliances and joint ventures. These cooperative efforts often involve the creation of a new entity to which two or more existing entities contribute resources and technical knowledge. It is through the combining of complementary core competencies that the main partners in such a transaction hope to realize synergies leading to new products and exploitation of new markets. Selecting strategic partners, monitoring and measuring performance of joint ventures, and determining when to unwind cooperative ventures all create new demands on the accounting function in organizations.

Open-book management philosophy is built on the notion that all employees are responsible for achieving an organization’s goals. And, to deliver a high level

of performance, each employee must understand how his or her job affects organizational performance. The burden of providing performance information belongs largely to accountants. Adding to the burden is the knowledge that some employees have greater abilities than other employees to understand and interpret accounting data. Accordingly, accountants must be prepared to issue simplified reports, identify new performance measurements, and train employees to understand financial information. Over time, and with practice, employees increase their abilities to apply financial information to enhance their contribution to organizational performance.

The operations of organizations impact the environment. Managers can act in three ways to manage effects on the environment: (1) Produce the waste, or pollutant, and then find a way to clean it up, (2) reduce the production of wastes or adopt production processes that generate no waste, or (3) avoid pollution by not producing any pollutants in the first place. Managers use all three approaches, and accountants play the important role of designing and maintaining the cost management and cost reporting systems that provide managers information necessary to make effective environmental decisions.

## KEY TERMS

business process reengineering (BPR) (p. 764)	enterprise resource planning (ERP) system (p. 771)
data mining (p. 775)	open-book management (p. 777)
downsizing (p. 767)	strategic alliance (p. 775)

## QUESTIONS

1. What are the forces causing managers to develop innovative business practices?
2. What is business process reengineering (BPR)? Does BPR lead to radical or modest changes in business practices? Discuss.
3. How can business process reengineering be used as a tool to improve the quality of manufacturing operations?
4. In designing a business process reengineering project, why is it wise to include customer input?
5. Business process reengineering and downsizing often occur together. Why?
6. Describe “downsizing.” What are the causes of downsizing?
7. What are the major risks of downsizing?
8. In what ways does downsizing create issues for the accounting function in a business?
9. Why does the management and analysis of a downsizing decision require analysis using capital budgeting techniques?
10. How has the globalization of firms affected the diversity of their employees? Why has increased diversity put an additional burden on accounting systems?
11. Besides increasing globalization, what trends within the United States are causing firms to seek more diversified workforces?
12. What is an enterprise resource planning (ERP) system? How do ERP systems improve upon prior generations of information systems?
13. How do ERP systems integrate the flow of information throughout the supply chain?
14. How are modules used as building blocks in the expansion of an ERP system?
15. How is an ERP system built around the concept of a central repository for information?

16. How does the adoption of an ERP system affect the finance function in a business?
17. What is data mining? Why does an ERP system facilitate data mining?
18. New strategic alliances are formed every day. What are strategic alliances and why are they increasingly used today?
19. What are some of the typical ways in which strategic alliances are structured?
20. Discuss the issues that management must address in structuring a typical strategic alliance.
21. Open-book management is a relatively new philosophy about the use of information in organizations. Describe open-book management and how, philosophically, it differs from the traditional view of how information should be managed in an organization.
22. How does the implementation of open-book management require the accountants in the organization to change their traditional practices?
23. How can games be used as a tool in implementing open-book management concepts?
24. In providing information to less financially sophisticated managers, how can accountants adapt accounting data to make it more easily understood?
25. Why is it necessary to tie incentives to financial measures to successfully implement open-book management?
26. Not all firms are well suited to implementing open-book management. Discuss the characteristics that a firm should possess for a successful implementation.
27. Why has the management of the environmental impacts of company operations become a major concern for businesses?
28. There are three generic strategies for dealing with the environmental effects of operations. Describe these strategies. Is one of the strategies always preferred to the others? Discuss.

## EXERCISES

29. (*Technology acquisition*) The acquisition of new technology is often a perilous event for firms. The successful acquisition and implementation of new systems require much more than merely purchasing hardware and software. For example, expenditures for a typical installation of a new financial system are split as follows:

Presales consultancy and advice	11.74%
Software	37.64%
Implementation	28.27%
Training	14.12%
Other services	14.24%

SOURCE: Anonymous, "An Overview of Accounting Software Packages," *Management Accounting* (London; March 1999), pp. 50–53.

- a. Why is it necessary that training be included as a cost of the technology acquisition?
  - b. How can the finance function of a business improve the internal process of technology acquisition?
30. (*Technological change*) Financial professionals are at the forefront in adopting new technologies. Many of these technologies are at the core of business strategies. Discuss how the increasing reliance of business on technology, coupled with the responsibility of the finance professional to manage technology, has changed the skills required of corporate accountants.



31. (*Business process reengineering*) Business process reengineering can be an effective tool to achieve breakthroughs in quality improvement and cost management. Total quality management, or TQM, is another philosophy about achieving organizational change. Conduct a library or Internet search to identify articles that discuss TQM and write a report in which you compare and contrast TQM and BPR.

32. (*Business process reengineering*) Process mapping and value analysis are tools often used in business process reengineering. A process map is a flowchart of the set of activities that comprise a process. Value (or activity) analysis examines each of the activities identified in the flowchart and determines to what extent it provides “value” to the customer. Those activities that add no value are targets to be designed out of the process.

Select a process at your college or university such as admissions or enrollment, prepare a process map, and conduct value analysis of the process map. Then, develop a plan (using Exhibit 17–3 as a guide) to design out of the process those activities that add no value to the customer (the student).



33. (*Downsizing*) In the past decade, the economy of Japan has fallen from the lofty levels reached in the 1980s. As a consequence many Japanese companies have been forced to downsize. In most companies, one of two strategies can be pursued in downsizing. First, a company can lay off employees. Second, a company can cut employment through natural attrition and by reducing future hiring.

Conduct a library or Internet search of “Japanese management culture” to identify attitudes of Japanese managers about employees. Then, prepare a report in which you explain why Japanese companies might prefer one of these downsizing strategies to the other.

34. (*Downsizing*)

*In 1999 Silicon Graphics Inc. (SGI) said it would lay off up to 17% of its workforce and sell or spin off several divisions, including its Cray supercomputer unit, as the computer maker faces an increasingly difficult market.*

*Yesterday’s announcements, made before an analysts’ meeting scheduled for New York, were a setback for Richard E. Belluzzo, brought in 1998 from Hewlett-Packard Co. to turn around SGI. While SGI had a sterling reputation for its graphics-based workstations, used to create special effects for many movies, it had been badly outmaneuvered in the high end of the market by such competitors as Sun Microsystems Inc., and was losing sales in the low end to generic PCs.*

SOURCE: Lee Gomes, “Silicon Graphics to Lay Off Up to 1,500, Sell or Spin Off Units, Including Cray,” *The Wall Street Journal* (August 11, 1999), p. A3. Permission conveyed through the Copyright Clearance Center.

- a. How do the layoffs in this situation suggest that SGI’s strategy has failed?
- b. As a market analyst, would you interpret these layoffs to be good news or bad news?

35. (*Diversity*) Is diversity an organizational asset or liability? This question has been hotly debated in the past. Some argue that Japan has an inherent advantage in competing with the United States because of its homogeneous workforce. The benefits of a homogeneous workforce arise from a common language, religion, work ethic, etc. Prepare a two-minute oral report in which you take a position and persuasively present an argument on whether diversity aids or hinders an organization.

36. (*Diversity and discrimination*) Recently, Boeing Co. settled a lawsuit for \$15 million brought by its own African-American workers claiming discrimination in promotions. On the heels of that decision, a group of Asian workers, also claiming discrimination in promotions, filed suit against Boeing. Similar stories make headlines in the financial press nearly every day.

<http://www.sgi.com>

<http://www.hewlett-packard.com>

<http://www.sun.com>

<http://www.boeing.com>

Discuss the contributions that can be made by the accounting and finance professionals in an organization to actively promote diversification of the workforce while managing real and perceived discrimination in promotion of workers and managers.

37. (*Open-book management*) The *Monopoly* game by Parker Brothers has been a popular board game for many years. Assume that you have just been hired by a company in the steel industry. The company manufactures a variety of products from stock steel components. The management of your new employer is examining the potential use of open-book management techniques. Prepare a written report for the top managers in your company discussing your recommendations for implementing open-book management. In your report, discuss how you would use *Monopoly* as a training tool for workers who have little knowledge of accounting concepts.

<http://www.monopoly.com>

38. (*Enterprise resource planning*) With an ERP system, a company can develop a “storefront” on the Internet. Through the storefront connection with customers, much information can be gathered about the market and the demand for specific products.



Assume that you are employed by an automaker. How could you use the Internet storefront and data mining to learn more about the purchasers of your vehicles for the purpose of improving the market share of your future generations of autos?

39. (*Enterprise resource planning*) ERP software programs are allowing tighter linkages within a supply chain than were possible with earlier generations of software. Consider the possibility of a tighter link between the marketing and engineering functions within a firm that makes consumer electronics. Discuss how the tighter link between these two functions could improve

- a. customer satisfaction,
- b. time to bring new products to market, and
- c. cost management.

40. (*Enterprise resource planning; Internet*) ERP software can facilitate the sharing of information throughout the supply chain. For example, an Internet storefront can be used to interact (downstream) with the final customer. The sales data gathered from the storefront can then be used as a basis for determining the quantity and mix of products to be produced. From this information a production schedule can be compiled. Discuss how posting the production schedule on the Internet could result in improved coordination with the upstream side of the supply chain.



41. (*Strategic alliances*) In their annual reports, companies provide brief descriptions of their most important contracts. These descriptions include strategic alliances. Select a large publicly traded company and obtain a copy of its most recent annual report. Review the portions of the annual report that discuss strategic alliances. Based on your review, prepare an oral report in which you discuss the following points:

- a. motivations for establishing strategic alliances,
- b. the extent to which strategic alliances are used to conduct business, and
- c. the relative financial success of the strategic alliances.

42. (*Strategic alliances*) Assume you are employed by a technology company that is considering entering into a strategic alliance with a communications company to provide certain innovative services delivered via the Internet.



As a financial professional, how could you contribute to the organization and management of the strategic alliance?

43. (*Open-book management*) You have been hired as a consultant by a company that manufactures toys from plastic stocks and resins.

The company management is presently wrestling with ways to improve the quality of its products. Evidence of quality problems is everywhere: high rates of product defects, many customer returns, poor rate of customer retention, and high warranty costs. Top management has traced virtually all quality-related problems to the production department.

Production workers in the company are paid based on a flat hourly rate. No bonuses are paid based on corporate profits or departmental performance measures. As the outside consultant, prepare an oral report to present to the top management of your client discussing how open-book management could be applied to address the quality problems. At a minimum, include in your report the following: how quality information would be conveyed to workers, how workers would be trained to understand the information, and how incentives would be established for improved quality performance.

- 44.** (*Environmental costs*) Following are descriptions of environmental waste situations. Identify the environmental strategy you would select to deal with each situation and discuss your logic.
- A relatively small amount of low toxicity waste is produced. This waste is not easily recycled, nor is technology available to avoid its production. Disposal costs are relatively modest.
  - This waste is highly toxic and is associated with several lethal diseases in humans. The cost of disposal is extraordinarily high.
  - A moderate amount of this waste is produced. The waste is nearly identical to a chemical purchased and used in an etching operation. The waste differs from the purchased chemical only because of a small amount of contaminants introduced in the production process.
- 45.** (*Environmental costs*) Galveston Chemical produces a variety of chemicals that are used in an array of commercial applications. One popular product, a chemical solvent, has among its required materials two very caustic acids, A and B. These acids are a very serious environmental hazard if not disposed of properly. For every ton of chemical produced, 500 pounds of acid A are required as well as 300 pounds of acid B. Because of inefficiencies in the present production process, 40 pounds of acid A and 20 pounds of acid B remain as waste with each ton of chemical manufactured. Because of impurities in the waste acids, they cannot be used in the production of future batches of product. The company incurs a cost of \$2 per pound to dispose of the waste acid produced.
- Recently, the company has become aware of new technology that reduces the quantity of waste acids produced. This technology would generate only 1 pound of acid A and 5 pounds of acid B as waste from each ton of chemical manufactured. Corporate management has estimated the new technology could be acquired and installed at a cost of \$500,000. The technology would have a life expectancy of six years. The new technology would not otherwise affect the cost of producing the chemical solvent.
- Which environmental cost management strategy is Galveston Chemical considering in this example?
  - Why would the application of discounted cash flow methods be appropriate to evaluate the new technology?
- 46.** (*Environmental cost management*) The increasing awareness by firms of their impacts on the environment has led to the development of firms that specialize in all aspects of managing the environmental effects of operations. Search the Internet using the term “environmental cost management.” Review the Web pages of the vendors of environmental services identified by the search. Write a brief report in which you describe the types of services that can be purchased to manage environmental costs.

## CASES

### 47. (Downsizing and restructuring)

With pioneering feats like the discovery of the hepatitis C virus, Chiron became one of the nation's largest biotech companies. Then some of its academic-style research and gambles on technology didn't pan out commercially, and growth stalled. In 1998, the proud scientists running Chiron reluctantly turned it over to a no-nonsense manager from the pharmaceutical industry.

Chiron now is seeking a comeback by taking fewer research risks and squeezing more profit from its assets—acting, that is, more like a traditional pharmaceutical company.

Recently, chairman and chief executive, Sean Lance, unveiled the first significant research cuts ever at Chiron. The retrenchment, announced only to employees, is part of a plan to cap its bulging R&D budget at \$290 million, and could result in layoffs of as many as 90 scientists, or 20% of its research staff.

The cuts, mainly in gene-therapy and vaccine programs, are designed to help sustain earnings growth, a priority for Mr. Lance. In the first nine months of 1999, earnings from continuing operations, at \$102.5 million, leapt 66% over the year-earlier period.

SOURCE: Ralph King, "New Therapy for Chiron: Fiscal Austerity," *The Wall Street Journal* (November 2, 1999) p. B1. Permission conveyed through the Copyright Clearance Center.

- a. Assume you are a market analyst for the biotech industry. Discuss how you would evaluate the news (as good or bad) about Chiron making deep cuts in R&D spending.
- b. As a finance professional at Chiron, how could you help Mr. Lance identify opportunities for reducing costs and improving profitability?

### 48. (Downsizing)

In 1997 the current employment market for top talent was the tightest in 25 years. The number of searches for senior-level executives was at an all-time high, nearly 15% ahead of last year's record clip. Among some of the hottest searches under way: chief executives for Unisys Corp., Delta Air Lines, Quaker Oats Co. and a president and chief operating officer for St. Jude Medical Inc.

Why is the labor market so thin for the "performance elite"—the top 4% or so of executives and senior managers? The long-term impact of corporate downsizing is a principal reason. The cutbacks in the ranks of middle managers during the past two decades have meant a loss of career-development patterns for employees. Because there are fewer rungs on the career ladder, "45-year-olds are basically doing the same thing they were at 30," says Roger I. Sekara, an Alexandria, Va., vice president of A.T. Kearney Executive Search.

SOURCE: Timothy D. Schellhardt, "Star Search: Talent Pool Is Shallow as Corporations Seek Executives for Top Jobs," *The Wall Street Journal* (June 26, 1997) p. A1. Permission conveyed through the Copyright Clearance Center.

In light of the scarcity of qualified leaders, what can the accounting function in an organization do to help identify potential top management talent from internal operations?

49. (Open-book management) Jennifer Gale, Technical Instruments Division manager of Wetherford Technologies Corporation, attended a 30-minute seminar on open-book management recently. As a result of the seminar, Ms. Gale decided to implement some open-book management practices in her division. She began the process of implementation today upon receipt of the latest quarterly results for her division.

Laslow Wallace, the production supervisor of the finishing department in Ms. Gale's division, was surprised to receive the following note in his afternoon mail.

<http://www.chiron.com>

<http://www.unisys.com>  
<http://www.delta-air.com>  
<http://www.quakeroats.com>  
<http://www.sjm.com>

<http://www.executive-search.atkearney.com>

Dear Wally:

I have just finished reviewing the financial results for the last quarter. I have included some data from the financial reports below. Because our firm must identify ways to become more cost competitive, I intend to share data from the financial reports with you each quarter. I want you to use the information as the basis for making your department more efficient. By early in the coming year, I intend to put in place an incentive pay system that will replace your current salary. Accordingly, your income in the future will depend on your ability to manage costs of your department.

To begin reducing costs, I suggest you concentrate on the cost items which I have circled below. Please give me a call if you have any questions.  
Regards,  
JG

#### FINISHING DEPARTMENT COST ANALYSIS

	This Quarter	This Quarter Last Year	Last Quarter
Direct material	\$ 95,000	\$ 75,000	\$ 90,000
Direct labor	925,000	840,000	940,000
Material-based overhead	27,000	22,000	23,000
Labor-based overhead	413,000	382,700	396,500
Machine-based overhead	657,000	589,000	617,000

As corporate controller of Wetherford Technology Corporation, you are surprised when Mr. Wallace calls your office and asks to meet with your staff to discuss the financial report and to discuss the meaning of "overhead." As you consider how to deal with Mr. Wallace, you begin to contemplate the memo which you are going to write to Ms. Gale. Before any decisions are implemented, you realize that Ms. Gale can use your expertise to design and implement open-book management practices. As you write the memo, you know that your suggestions must be specific, positive, and informative.

50. (Various) Peter Wyndale, president of Mallory Industrial, sat dejected in his chair after reviewing the 2001 first-quarter financial reports on one of the company's core products: a standard, five-speed transmission (product number 2122) used in the heavy equipment industry in the manufacture of earth-moving equipment. Some of the information in the report follows.

#### MARKET REPORT, PRODUCT NUMBER 2122, QUARTER 1, 2001

##### Sales Data

Total sales (dollars), Quarter 1, 2001	\$4,657,500
Total sales (units), Quarter 1, 2001	3,450
Total sales (dollars), Quarter 1, 2000	\$6,405,000
Total sales (units), Quarter 1, 2000	4,200

##### Market Data

Industry unit sales, Quarter 1, 2001	40,000
Industry unit sales, Quarter 1, 2000	32,000
Industry average sales price, Quarter 1, 2001	\$1,310
Industry average sales price, Quarter 1, 2000	\$1,640

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**MARKET REPORT, PRODUCT NUMBER 2122, QUARTER 1, 2001**


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**Profit Data**


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Mallory average gross profit per unit, Quarter 1, 2001	\$ 45
Mallory average gross profit per unit, Quarter 1, 2000	\$160
Industry average gross profit per unit, Quarter 1, 2001	\$ 75
Industry average gross profit per unit, Quarter 1, 2000	\$140

Mallory's strategy for this transmission is to compete on the basis of price. Mallory's transmission offers no features that allow it to be differentiated from those of major competitors and Mallory's level of quality is similar to the average of the industry.

Also on Mr. Wyndale's desk was a report from his business intelligence unit. Mr. Wyndale underlined some key pieces of information from the report. The underlined items follow.

- Commodity transmission components (nuts, bolts, etc.), which all major transmission producers acquire from specialty vendors, decreased in price by approximately 5% from January 2000 to January 2001.
  - Two major competitors moved their main assembly operations to China from the United States in early 2000. These competitors are believed to have the lowest unit production cost in the industry.
  - A third major competitor ceased manufacture of major gear components and began outsourcing these parts from a Mexican firm in mid-2000. This firm increased its market share in 2000 from 10 to 14 percent following a major decrease in sales price.
  - Mallory's production operations did not change in any material respect from 2000 to 2001.
  - Mallory manufactures approximately 83 percent of the components used in the heavy industrial transmission. The industry norm is to make 57 percent of the components.
  - For the balance of 2001, industry experts agree that quarterly demand for the heavy industrial transmission will be even higher than the levels posted for the first quarter of 2001.
- a. Examine the information Mr. Wyndale has gathered. Analyze the data that are given to identify as specifically as possible the problems that have led to Mallory's loss of profit and market share in the heavy industrial transmission market.
  - b. Based on your analysis in part (a), and the information given to Mr. Wyndale, suggest specific alternatives that Mr. Wyndale should consider to make his firm more competitive in the heavy industrial transmission market. Use concepts presented in the chapter as the basis of your recommendations.

- 51.** (*Enterprise resource management*) Barnes & Noble and Amazon.com are competitors in vending books and other consumer items. The two are differentiated to an extent by their marketing strategies. Although Amazon.com relies exclusively on Internet marketing, Barnes & Noble operates both retail stores and an Internet outlet.

Assume that you work for a financial services firm that specializes in ERP installations. Your personal specialty involves ERP solutions that link the marketing function to the "back end" of businesses.

Write a report in which you discuss the benefits that could be realized by Barnes & Noble and Amazon.com from purchasing ERP software from you. In your report discuss how the ERP solution that you would design for Barnes & Noble would differ from the solution you design for Amazon.com.



<http://www.barnesandnoble.com>

<http://www.amazon.com>

**52.** (*Environmental cost management*) ABX Plastics has experienced serious problems as a result of attempts to manage its impacts on the environment. To illustrate the problems, consider the following events, which occurred during the past five years:

- ABX was assessed \$75 million in fines and penalties for toxic emissions. These amounts related to several separate regulatory investigations.
- ABX received reprimands from several regulatory bodies for failing to maintain required records regarding hazardous waste.
- ABX is currently facing a class-action lawsuit filed by former employees of a subsidiary in Mexico alleging management failed to disclose information to employees about the toxicity of certain materials—and as a consequence the health of the former employees has been permanently harmed.
- ABX must submit bids to obtain most of its business. Managers have casually observed that the company is successful more frequently when it bids on jobs that require handling the most toxic chemicals.
- ABX has a very basic accounting system that tracks costs on a job order basis, but is not sensitive to quality or environmental costs.

Assume that you are an employee of a consulting firm that has been hired by ABX to improve management of all environmental effects. As the finance expert on the consulting team, you are expected to make recommendations as to how the information systems should be modified to reduce environmental costs. Prepare a report discussing your recommendations for ABX.

## REALITY CHECK

**53.** *Slightly more than half of working Americans question their bosses' integrity; when they do, they're more likely to leave their jobs over it, according to a study by the Hudson Institute and Walker Information.*

*The firms surveyed more than 2,000 full and part-time workers from the public and private sectors in 48 states. Fewer than half of them, 42%, believe their company deserves their loyalty. And slightly more than half of the surveyed employees would recommend their place of employment to another.*

*Employees also fear retaliation for reporting inappropriate behavior like drug use, sexual harassment, record falsification, and unfair treatment of employees, representatives of the research firms said. They also worry complaints won't be kept confidential.*

SOURCE: Scott Scholten, "Boss Lacks Integrity, Say 50% of Workers, Study Shows," *The Wall Street Journal Interactive* (October 27, 1999). Permission conveyed through the Copyright Clearance Center.

- a.** In your opinion, does the achievement of high-quality operations mandate that a firm treat its employees ethically? Discuss.
  - b.** Assume a firm has adopted open-book management. Discuss how the survey respondents' perceptions of their employers mesh with the open-book management requirement to have honest exchanges of information between employees and managers.
- 54.** Strategic alliances and joint ventures are being used with increasing frequency to exploit market opportunities. For example, according to Coopers and Lybrand (now PricewaterhouseCoopers), over half of the nation's fastest growing companies are involved in an average of three alliances.
- a.** From the perspective of controlling the quality of production, discuss how a strategic alliance is significantly different from a typical vendor/customer relationship.

- b.** How can the accounting function contribute to the management of quality for strategic alliances?
- 55.** Automakers provide an interesting study in cost management strategies. General Motors often provides a contrast to the other U.S. manufacturers. For example, while Chrysler and Ford have opted to outsource many product components, GM continues to manufacture a much higher percentage of the parts needed to produce its cars. One of the variables driving GM's strategy is its high level of unionization. The unions have resisted attempts made by General Motors to restructure operations and outsource more components.
  - a.** From the perspective of price-based competition, why would GM want the flexibility to outsource more of its parts and components?
  - b.** From the perspective of managing quality, how could outsourcing positively or negatively affect GM's ability to manage quality relative to its competitors?
  - c.** What ethical responsibility does GM bear to the union in seeking to restructure and outsource more of its parts manufacturing?
- 56.** Andy Vickers was reprimanded by the home office for recommending a pollution abatement project because the project did not meet the standard financial criterion of a 10 percent rate of return. However, Andy had concluded that the \$60,000 piece of equipment was necessary to prevent small amounts of arsenic from seeping into the city's water system. No EPA warnings had been issued to the company.
  - a.** Discuss the company requirement of a 10 percent rate of return on all projects.
  - b.** What might be the ultimate consequence to Vickers' company if it fails to prevent arsenic seepage into the groundwater system?
  - c.** How should (or can) Vickers justify the purchase of the equipment to the home office?
- 57.** This chapter discusses three approaches to managing environmental costs. Some strategies deal with hazardous waste only after it has been produced.
  - a.** Do firms have any ethical obligations not to produce hazardous waste regardless of how successfully the company deals with the waste?
  - b.** Assume you are a key financial adviser in a firm that produces a large amount of toxic waste. Further assume that the firm faces severe financial pressures and risks bankruptcy. By improperly disposing of certain waste materials your company could save many millions of dollars, avoid bankruptcy, and preserve 10,000 local jobs. What action would you recommend your company take?