

ABB uses a dual chain of command—with country managers and segment managers—to coordinate its various businesses, which include the manufacturing of high-speed trains.



Have you ever heard of ABB? Most people haven't. Yet this global equipment giant has sales of \$29 billion a year and is bigger than

Westinghouse. It is, for instance, the world leader in high-speed trains, robotics, and environmental control.<sup>1</sup>

ABB was created in 1988 through the merger of ASEA, a Swedish engineering group, with Brown Boveri, a Swiss competitor. Management then added seventy more companies to create the current ABB giant.

We introduce ABB here because its management faced an interesting challenge: How do you organize a corporation that has 210,000 employees in locations around the world, that frequently shifts whole businesses from one country to another, and that tries to get its various businesses to share technology and products? Percy Barnevik, ABB's chairman, believes that he has an answer. He has drastically cut the staff at the corporation's headquarters and introduced a dual chain of command structure that gives all employees a country manager and a business sector manager.

Before the merger, Brown Boveri had 4000 people in its Baden, Switzerland, headquarters. ASEA had 2000 in its Swedish headquarters. Barnevik cleaned house at these head offices. Today, 150 people occupy ABB's modest headquarters in west Zurich. The rest were either fired or sent to subsidiaries. Barnevik is restructuring ABB so it can be competitive in all major world markets. A lean headquarters staff means that top management must decentralize decision making down to the operating units.

Perhaps the most innovative organizational idea that Barnevik has introduced is the dual chain of command. ABB has about one hundred country managers who run traditional, national companies with local boards of directors. Most of these managers are citizens of the country in which they work. In addition, there are sixty-five global managers who are organized into eight segments: transportation; process automation and engineering; environmental devices; financial services; electrical equipment; and three electric power businesses, generation, transmission, and distribution. This structure, according to Barnevik, makes it easier for managers such as Gerhard Schulmeyer, a German who heads ABB's U.S. businesses as well as the automation segment, to make use of technology from other countries. For instance, Schulmeyer used techniques developed by ABB in Switzerland to service U.S. steam turbines and ABB's European technology to convert a Michigan nuclear reactor into a natural-gas-fired plant.

In this chapter, we'll show that there are a number of structural options at management's disposal. While the previous chapter provided the foundations of organization theory, it oversimplified structural designs. In the real world, there are few purely mechanistic or organic organizations. Rather, there are a variety of structural options that tend *toward* either the mechanistic or the organic. This chapter presents a number of these options, loosely categorized as either mechanistic or organic.

However, this chapter is concerned with more than just organization design. It is also concerned with job design. Managerial decisions on how employees' day-to-day jobs should be designed and arranged—which include considerations such as the amount of freedom and discretion an employee should have, whether individuals should work alone or as part of a team, the most effective arrangement of work hours, and the like—are an essential part of the organizing function. Moreover, making organizational design decisions is not a universal activity for all managers. Most supervisors and other low-level managers have little or no say about the number or kind of rules and regulations their unit will contain or how many levels of hierarchy will exist between the top and the bottom of the organization. For the most part, decisions concerning an organization's overall structure are made by senior-level executives, possibly with some consultation with subordinate managers. In performing the organizing function, lower-level managers are usually far more concerned with designing tasks or jobs than with making major decisions about the organization's structure. Therefore, in this chapter we'll also consider the job design options that managers need to consider as part of their organizing responsibilities.

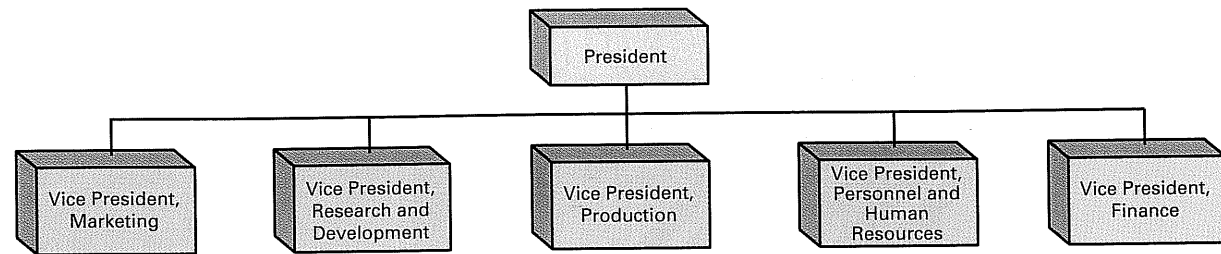
## Mechanistic Design Options

When contingency factors favor a mechanistic design, one of two options is most likely to be considered. The *functional* structure's primary focus is on achieving the efficiencies of division of labor by grouping like specialists together. The *divisional* structure creates self-contained, autonomous units that are usually organized along mechanistic lines.

One point needs reiterating before we describe these structures. While both generally fall into the mechanistic category (they are clearly more mechanistic than organic), in practice few take on all the properties of a purely mechanistic structure.

### The Functional Structure

"Listen, nothing happens in this place until we *produce* something," stated the production executive. "Wrong," interrupted the research and development manager. "Nothing happens until we *design* something!" "What are you talking about?" asked the marketing executive. "Nothing happens here until we *sell* something!" Finally, the exasperated accountant responded, "It doesn't matter what you produce, design, or sell. No one knows what's happening until we *tally up the results!*"



**FIGURE 11-1**  
Functional Structure in a Manufacturing Organization

### functional structure

A design that groups similar or related occupational specialties together.

This dialogue is an undesirable result of the functional structure. We introduced departmentalization in the previous chapter, so the idea of organizing around functions is already familiar to you. The **functional structure** merely expands the functional orientation to make it the dominant form for the entire organization. As depicted in Figure 11-1, management can choose to organize its structure by grouping similar and related occupational specialties together. When it does this, management has chosen a functional structure.

The strength of the functional structure lies in the advantages that accrue from specialization. Putting like specialties together results in economies of scale, minimizes duplication of personnel and equipment, and makes employees comfortable and satisfied because it gives them the opportunity to “talk the same language” as their peers.

The obvious weakness of the functional structure was illustrated at the opening of this section: The organization frequently loses sight of its best interests in the pursuit of functional goals. No one function is totally responsible for end results, so members within individual functions become insulated and have little understanding of what people in other functions are doing. Because only top management can see the whole picture it must assume the coordination role. The diversity of interests and perspectives that exists between functions can result in continual conflict between functions as each tries to assert its importance. An additional weakness of the functional structure is that it provides little or no training for future chief executives. The functional executives only see one narrow segment of the organization: the one dealing with their function. Exposure to other functions is limited. As a result, the structure does not give managers a broad perspective on the organization’s activities.

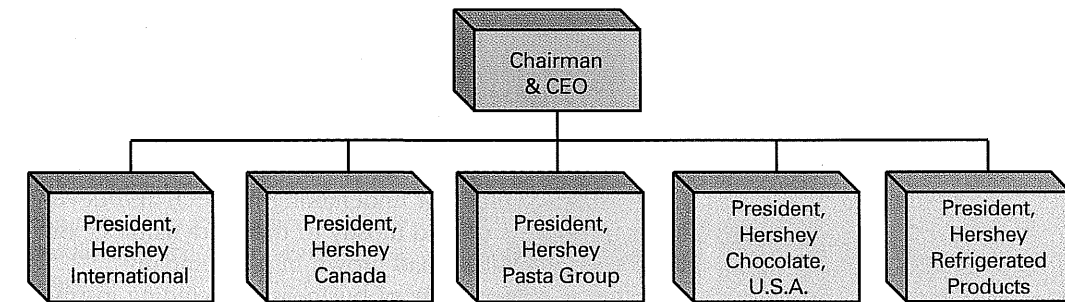
### The Divisional Structure

General Motors, Hershey Foods, Burlington Industries, and Xerox are examples of organizations that have adopted the divisional structure. An illustration of what this structural form looks like at Hershey Foods Corp. can be seen from the organization chart in Figure 11-2.

The **divisional structure**, which was pioneered in the 1920s by General Motors and DuPont, is designed to foster self-contained units. Each unit or division is generally autonomous, with a division manager responsible for performance and holding complete strategic and operational decision-making authority. At Hershey Foods, each of the groups is a separate division headed by a president who is totally responsible for results. As in most divisional structures, a central headquarters provides support services to the divisions. This typically includes financial and legal services. Of course, the headquarters also acts as an external overseer to coordinate and control the various divisions. Divisions are, therefore, autonomous within given parameters. Division managers are usually free to direct their division as they see fit, as long as it is within the overall guidelines set down by headquarters.

### divisional structure

An organization structure made up of autonomous, self-contained units.



**FIGURE 11-2**  
Divisional Structure at Hershey Foods Corp.

A closer look at divisional structures reveals that their “innards” contain functional structures. The divisional framework creates a set of autonomous “little companies.” Within each of these companies lies another organizational form, and it is almost always of the functional variety.

What advantages does the divisional structure offer? It focuses on results. Division managers have full responsibility for a product or service. The divisional structure also frees headquarters staff from being concerned with day-to-day operating details so that they can pay attention to long-term and strategic planning.

In contrast to functional structures, the divisional form is also an excellent vehicle for developing senior executives. Division managers gain a broad range of experience in running their autonomous units. The individual responsibility and independence give them an opportunity to run an entire company with its frustrations and satisfactions. So a large organization with fifteen divisions has fifteen division managers who are developing the kind of generalist perspective that is needed in the organization’s top spots.

The major disadvantage of the divisional structure is duplication of activities and resources. Each division, for instance, may have a marketing research department. In the absence of autonomous divisions, all of the organization’s marketing research might be centralized and done for a fraction of the cost that divisionalization requires. Thus the divisional form’s duplication of functions increases the organization’s costs and reduces efficiency.

## Organic Design Options

In this section, we present a selection of organic design options. These include the simple, matrix, network, task force, and committee structures.

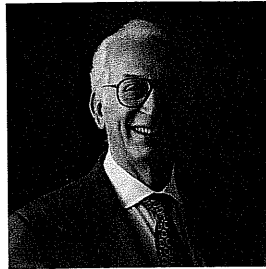
Most organizations in North America are small. To be specific, 94 percent of all businesses in the United States have fewer than fifty employees.<sup>2</sup> Small organizations don’t require a highly complex, formal structural design. What they need is a *simple* structure—that is, one that minimizes structural complexity. The *matrix* structure is an organic device that provides management with both high accountability for results and economies of specialization. It’s popular in aerospace industries, high-tech companies, and professional organizations that operate in dynamic environments. The organic design of the future may be the *network* structure. The network design is a small central organization that contracts with other companies and suppliers to perform its manufacturing, distribution, marketing, or other crucial business functions. Its flexibility lies in the fact that management can move quickly to exploit new markets or new technologies because it “rents” the people, manufacturing facilities,



MANAGERS WHO MADE A DIFFERENCE



### George Hatsopoulos at Thermo Electron Corp.



George N. Hatsopoulos founded Thermo Electron Corp. in 1956 as a vehicle for undertaking research and development projects related mostly to thermodynamics.<sup>3</sup> But by the early 1980s, it had grown into a company engaged in a broad mix of businesses, including instrument manufacturing, industrial heat treating, and specialty metal machining. Moreover, the company continued to develop new products, often in unrelated fields.

To manage his company better, Hatsopoulos came up with an innovative derivation of the divisional structure. He divided his firm into bite-sized chunks, each unit being an independent public company with its own CEO and board of directors. In 1992, there were eight of these independent companies. Hatsopoulos predicts there will be twenty by 2000. The majority shareholder in each company, however, is Thermo Electron Corp.

By turning operating divisions into public companies, entrepreneurial managers attain greater independence while leaving the parent company with a measure of control. For instance, because of its strong financial position, Thermo Electron can borrow money at low rates and relend it to its publicly traded divisions at rates lower than banks would charge. Additionally, this structure lowers overhead costs for each division. Division managers can treat their divisions as independent units and share in the appreciation of their unit's stock. At the same time, they can draw on Thermo Electron's resources for administrative and financial-management services, technical assistance, public relations, accounting, and legal services.

and services it needs instead of "owning" them. We wrap up our discussion of organic design options by considering the *task force* and *committee* structures. Each can be used as an organic appendage to a mechanistic organization. Each adds flexibility to the typically inflexible mechanistic structure.

### The Simple Structure

If "bureaucracy" is the term that best describes most large organizations, "simple structure" is the one that best characterizes most small ones.

A **simple structure** is defined more by what it is not than by what it is. It is not an elaborate structure.<sup>4</sup> If you see an organization that appears to have almost no structure, it is probably of the simple variety. By that we mean that it is low in complexity, has little formalization, and has its authority centralized in a single person. The simple structure is a "flat" organization; it usually has only two or three vertical levels, a loose body of employees, and one individual in whom the decision-making authority is centralized.

The simple structure is most widely practiced in small businesses in which the manager and the owner are one and the same. This, for example, is illustrated in Figure 11-3—an organization chart for a retail men's store. Jack Gold owns and manages this store. Although Jack Gold employs five full-time salespeople, a cashier, and extra personnel for weekends and holidays, he "runs the show."

**simple structure**  
An organization that is low in complexity and formalization but high in centralization.

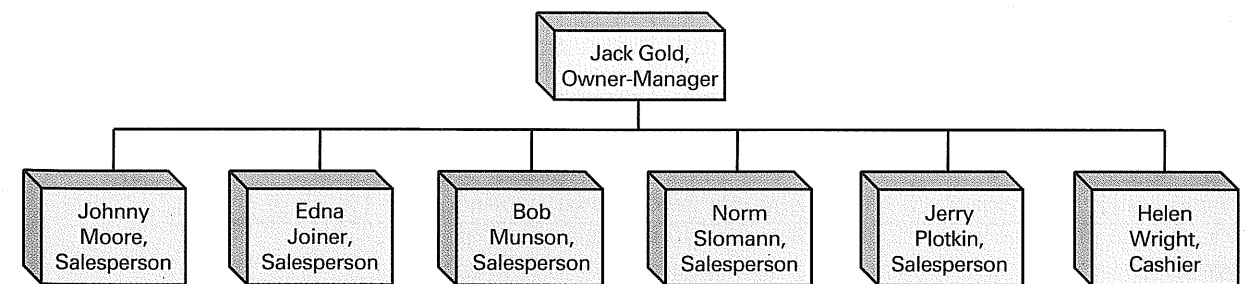
Jack Gold's Men's Store has a simple structure. Decision making in the simple structure is basically informal. All important decisions are centralized in the senior executive, who, because of the organization's low complexity, can obtain key information readily and act rapidly when required. In addition, since complexity is low and decision making is centralized, the senior executive in the simple structure frequently has a wide span of control.



The strengths of the simple structure are obvious. It is fast, flexible, and inexpensive to maintain, and accountability is clear. One major weakness is that it is effective only in small organizations. It becomes increasingly inadequate as an organization grows because its low formalization and high centralization result in information overload at the top. As size increases, decision making becomes slower and can eventually come to a standstill as the single executive tries to continue making all the decisions. This often proves to be the undoing of many small businesses. When a company's sales begin to exceed about \$5 million a year, it's very difficult for the owner-manager to make all the choices. If the structure isn't changed and made more elaborate, the firm is likely to lose momentum and eventually fail. The simple structure's other weakness is that it is risky: everything depends on one person. One heart attack can literally destroy the organization's information and decision-making center.

### The Matrix Structure

The functional structure offers the advantages that accrue from specialization. The divisional structure has a greater focus on results but suffers from duplication of



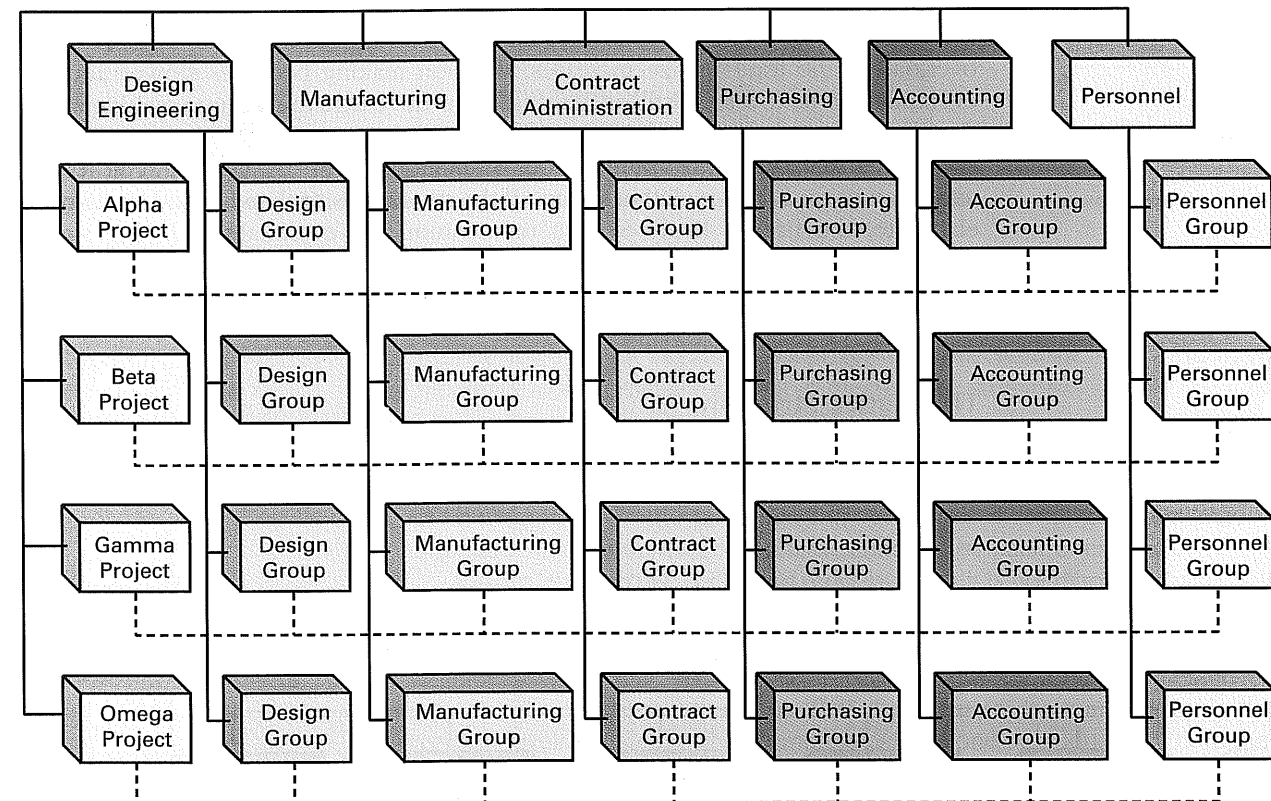
**FIGURE 11-3**  
Organization Chart for a Simple Structure (Jack Gold's Men's Store)

**matrix structure**

A structural design that assigns specialists from functional departments to work on one or more projects that are led by a project manager.

activities and resources. If the organization were to be completely organized around products—that is, if each product the company produced had its own supporting functional structure—the focus on results would again be high. Each product could have a product manager responsible for all activities related to that product. This, too, would result in redundancy, however, since each product would require its own set of functional specialists. Does any structure combine the advantages of functional specialization with the focus and accountability that product departmentalization provides? The answer is Yes, and it's called the **matrix structure**.

The matrix structure creates a *dual chain of command*. It explicitly breaks the classical principle of unity of command. Functional departmentalization is used to gain the economies from specialization. But overlaying the functional departments is a set of managers who are responsible for specific products, projects, or programs within the organization. (We will use these terms—products, projects, programs—interchangeably, since matrix structures can use any of the three.) Figure 11-4 illustrates the matrix structure of an aerospace firm. Notice that along the top of the figure are the familiar functions of engineering, accounting, personnel, and so forth. Along the vertical dimension, however, the various projects that the aerospace firm is currently working on have been added. Each project is directed by a manager who staffs his or her project with people from the functional departments. The addition of this vertical dimension to the traditional horizontal functional departments, in effect, weaves together elements of functional and product departmentalization—hence the term *matrix*.



**FIGURE 11-4**  
A Matrix Organization in an Aerospace Firm

How does the matrix work? Employees in the matrix have two bosses: their functional departmental manager and their product or project manager. The project managers have authority over the functional members who are part of that manager's project team. The purchasing specialists, for instance, who are responsible for procurement activities on the Gamma project are responsible to both the manager of Purchasing and the Gamma project manager. Authority is shared between the two managers. Typically, this is done by giving the project manager authority over project employees relative to the project's goals. However, decisions such as promotions, salary recommendations, and annual reviews remain the functional manager's responsibility. To work effectively, project and functional managers must communicate regularly and coordinate the demands upon their common employees.

The matrix creates an overall structure that possesses the strengths of both functional and product departmentalization while avoiding their weaknesses.<sup>5</sup> That is, the functional form's strength lies in putting like specialists together, which minimizes the number necessary, and it allows for the pooling and sharing of specialized resources across products. Its primary drawback is the difficulty in coordinating the tasks of the specialists so that their activities are completed on time and within the budget. The product form, on the other hand, has exactly the opposite benefits and disadvantages. It facilitates the coordination among specialties to achieve on-time completion and meet budget targets. Furthermore, it provides clear responsibility for all activities related to a product or project. But no one is responsible for the long-run technical development of the specialties, and this results in duplication of costs.

If management chooses to implement a matrix structure, it can opt for either the temporary or the permanent variety. The aerospace structure shown in Figure 11-4 illustrates a temporary matrix. Because the projects the organization undertakes change over time, the structure at any given time is temporary. When new contracts are secured in the aerospace firm, project teams are created by drawing members from functional departments. A team exists only for the life of the project it is working on. This might be a few months or a half-dozen years. In an organization that has a number of projects, at any given time some are just starting up, others are well along, and still others are winding down.

The product dimension of the permanent matrix stays relatively intact over time. Large business schools use the permanent matrix when they superimpose product structures—undergraduate programs, graduate programs, executive programs, and so forth—over functional departments of management, marketing, and accounting. (See Figure 11-5.) Directors of product groups utilize faculty from the departments in order to achieve their goals. For example, the director of the master's program staffs his or her courses from members of the various departments. Notice that the matrix provides clear lines of responsibility for each product line. The responsibility for success or failure of the executive development program, for instance, lies directly with its director. Without the matrix, it would be difficult to coordinate faculty among the development program's various course offerings. Furthermore, if there are any problems with the program, the matrix avoids the passing of responsibility among the functional department chairpersons.

Our examples should make the matrix's strengths evident: it can facilitate coordination of a multiple set of complex and interdependent projects while still retaining the economies that result from keeping functional specialists grouped together.

The major disadvantages of the matrix lie in the confusion it creates and its propensity to foster power struggles. When you dispense with the unity of command principle, you significantly increase ambiguity. Confusion can exist over who reports to whom. This confusion and ambiguity, in turn, plant the seeds for power struggles. Because the relationships between functional and project managers typically are not



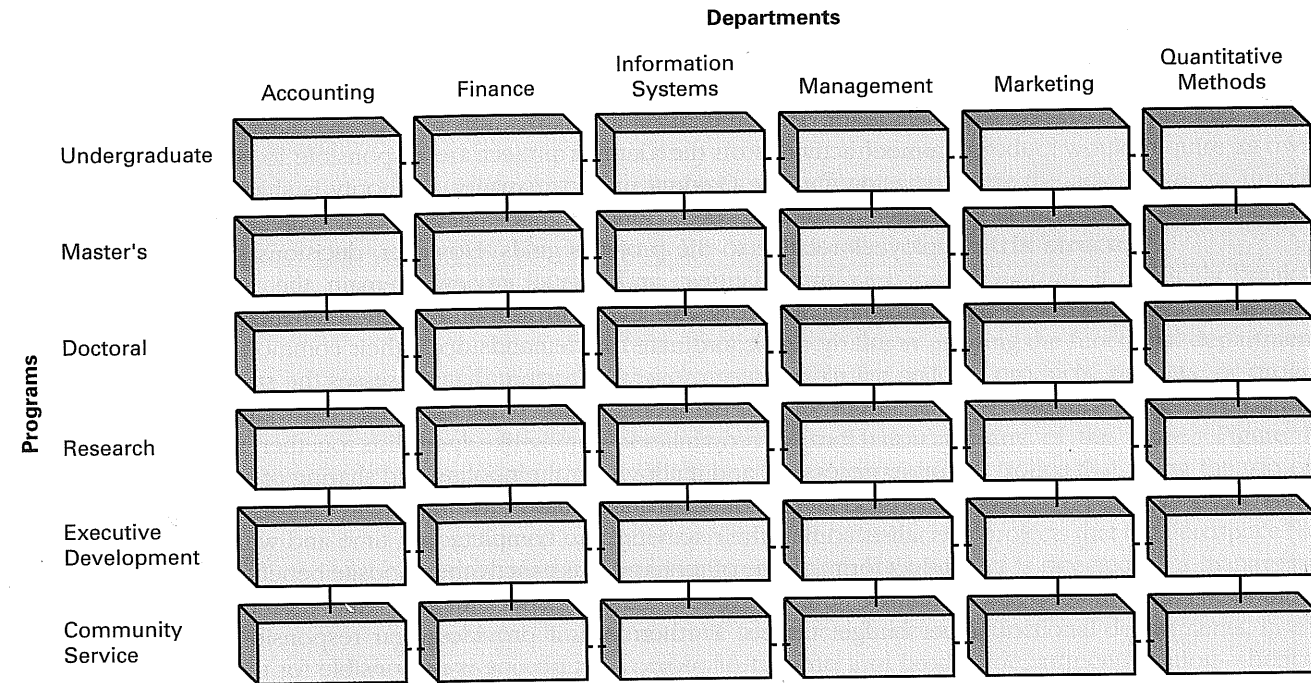


FIGURE 11-5 Matrix Structure in a School of Business

specified by rules and procedures, they need to be negotiated, and this gives rise to power struggles. Deciding whether to implement the matrix requires managers to weigh these disadvantages against the advantages.

### The Network Structure

A new form of organization design is currently gaining popularity. It allows management great flexibility in responding to new technology, fashion, or low-cost foreign competition. It is the **network structure**—a small central organization that relies on other organizations to perform manufacturing, distribution, marketing, or other crucial business functions on a contract basis.<sup>6</sup>

The network structure is a viable option for the small organization. Magicorp, for example, runs a small shop that makes graphics transparencies. It relies on other companies for the rest of its operations. People who use graphics software on their personal computers send data by phone lines to Magicorp's office in Wilmington, Ohio. Why is Magicorp in Wilmington? Because the Airborne Express hub is there, making fast turnarounds possible. Rather than do its own marketing, Magicorp relies on graphics software vendors to promote its services, paying these vendors on a royalty basis.

The network structure is also applicable to large organizations. Nike, Esprit, Emerson Radio, and Liz Claiborne are large companies that have found that they can sell hundreds of millions of dollars of products every year and earn a very competitive return with few or no manufacturing facilities of their own and only a few hundred employees. What these firms have done is to create an organization of relationships. They connect with independent designers, manufacturers, commissioned sales representatives, or the like to perform the functions they need on a contract basis.

Other large companies have developed variants of the network structure by farming out just a limited set of functions. National Steel Corp. contracts out its mail room operations. AT&T farms out its credit-card processing. Mobil Corp. has turned

**network structure**  
A small centralized organization that relies on other organizations to perform its basic business functions on a contract basis.

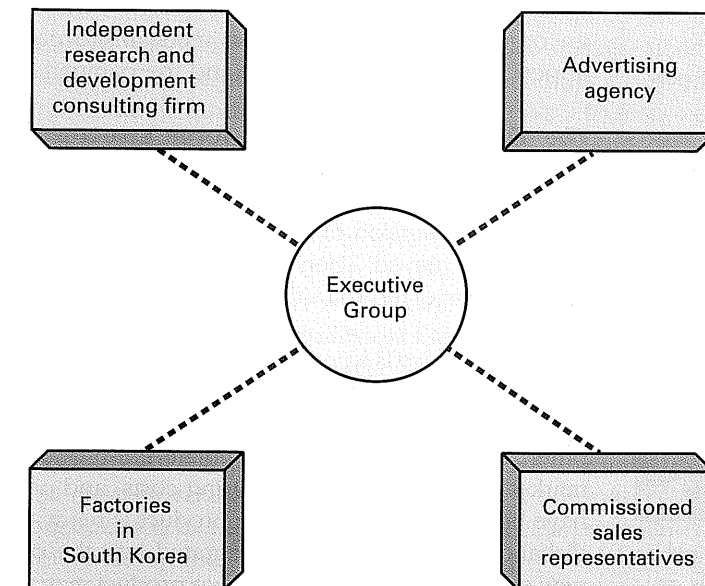
over maintenance of its refineries to another firm. And most book publishing companies—the large ones as well as the small ones—rely on outside contractors for editing, designing, printing, and binding.

The network stands in sharp contrast to those divisional structures that have many vertical levels of management and those in which organizations seek to control their destiny through ownership. In such organizations, research and development are done in-house, production occurs in company-owned manufacturing plants, and sales and marketing are performed by their own employees. To support all this, management has to employ extra personnel including accountants, human resource specialists, and lawyers. In the network structure, most of these functions are bought outside the organization. This gives management a high degree of flexibility and allows the organization to concentrate on what it does best. For most U.S. firms, that means focusing on design or marketing. Emerson Radio Corporation, for example, designs and engineers its TVs, stereos, and other consumer electronic products, but it contracts out their manufacture to Asian suppliers.

Figure 11-6 shows a network structure in which management contracts out all of the primary functions of the business. The core of the network organization is a small group of executives. Their job is to oversee directly any activities that are done in-house and to coordinate relationships with the other organizations that manufacture, distribute, and perform other crucial functions for the network organization. The dotted lines in Figure 11-6 represent those contractual relationships. In essence, managers in network structures spend most of their time coordinating and controlling external relations.

The network organization is not appropriate for all endeavors. It fits industrial companies such as toy and apparel firms, which require very high flexibility in order to respond quickly to fashion changes. It also fits firms whose manufacturing operations require low-cost labor that is available only outside the United States and can best be utilized by contracting with foreign suppliers. On the negative side, management in network structures lacks the close control of manufacturing operations that exists in more traditional organizations. Reliability of supply is also less predictable. Finally, any innovation in design that a network organization acquires is susceptible to being “ripped off.” It is very difficult, if not impossible, to guard closely innovations that are under the direction of management in another organization. Yet with

FIGURE 11-6 A Network Structure





## The Structure of Multinationals

The challenge in managing a multinational corporation (MNC) is greater than in the traditional domestic firm.<sup>7</sup> For instance, in addition to the normal risks inherent in a business enterprise, the MNC is more vulnerable to political instability, changes in laws, and exchange-rate fluctuations. Therefore MNCs must have a structure that provides greater environmental scanning capability to allow managers to monitor, and quickly respond to, changes in their environment. Moreover, the high complexity created by geographically dispersed units requires superior structural mechanisms to allow for communicating over distances, often in different languages, and to facilitate rapid responses to diverse market demands.

When organizations move into global markets, they typically begin by adding an international division. However, this is rarely adequate for the true multinational. To attain the goal of becoming a fully integrated global organization, many move to a multinational matrix structure. This simultaneously blends product and geographic departmentalization. For instance, a multinational might have a product manager for each of its major marketing areas in North America, Latin America, Europe, and Asia. The major advantage of the multinational matrix is to allow an organization to respond more quickly and appropriately to the unique requirements of these various geographic markets for a company's products.

computers in one organization now interfacing and communicating directly with computers in other organizations, the network structure is becoming an increasingly viable alternative.

### Organic Appendages

The design options previously described are intended for organizationwide application. Sometimes, however, management might want to maintain an overall mechanistic structure but gain the flexibility of an organic structure. An alternative is to append an organic structural unit to a mechanistic organization. Two examples of such appendages are the task force and the committee structure.

**The Task Force** The **task force structure** is temporary structure created to accomplish a specific, well-defined, and complex task that requires the involvement of personnel from a number of organizational subunits. It can be thought of as a scaled-down version of the temporary matrix. Members serve on the task force until its goal is achieved. Then the task force is disbanded, and its members move on to a new task force, return to their permanent functional department, or leave the organization.<sup>8</sup>

The task force is a common tool of consumer product firms. For instance, when the Kellogg Co. decides to create a new breakfast cereal, it brings together people with expertise in product design, food research, marketing, manufacturing, finance, and other relevant functions to formulate the product, design its package, determine its market, compute its manufacturing costs, and project its profits. Once the problems have been worked out and the product is ready to be mass produced, the task force disbands, and the cereal is integrated into the permanent structure. At Kellogg, the new cereal is then assigned its own product manager and becomes a part of Kellogg's matrix structure.

#### task force structure

A temporary structure created to accomplish a specific, well-defined, complex task that requires the involvement of personnel from a number of organizational subunits.



This Washington, D.C. Neighborhood Crime Watch patrol is an example of a task force.

#### committee structure

A structure that brings together a range of individuals from across functional lines to deal with problems.

**The Committee Structure** Another option that combines a range of individual experiences and backgrounds for dealing with problems and cuts across functional lines is the **committee structure**.

Committees may be temporary or permanent in nature. A temporary committee is typically the same as the task force. Permanent committees facilitate the unity of diverse inputs as does the task force, but they offer the stability and consistency of the matrix. However, committees are appendages. Members of the committee are permanently attached to a functional department. They can meet at regular or irregular intervals to analyze problems, make recommendations or final decisions, coordinate activities, or oversee projects. As a result, they are mechanisms for bringing together the input of diverse departments. Colleges frequently use permanent committees for everything from student admissions to faculty promotions and alumni relations. Large business firms use committees as coordinating and control mechanisms. For instance, many firms have a compensation committee to review salary and bonuses provided to management personnel and an audit committee to objectively evaluate the organization's operations. A few firms even use the committee as the central coordinating device in their structure. J.C. Penney has a management committee that consists of the firm's top fourteen executives. They debate and pass on decisions to such disparate areas as strategic planning, public affairs, personnel, and merchandising. Permanent subcommittees are used to focus on key parts of the business, while temporary committees are formed for specific issues, such as what to do with the company's troubled Treasury discount store operation.

## A Buyer's Guide to Organization Design Options

What conditions make one organization design preferable to another? Table 11-1 summarizes the options we have discussed and notes the conditions that favor each.

Certain structures are designed to work well in large organizations that are specialized. These include the functional and divisional structures. Both are essentially bureaucracies or mechanistic structures.

The simple structure is effective when the number of employees is few, when the organization is new, and when the environment is simple and dynamic.<sup>9</sup> Small size usually means less repetitive work, so standardization is less attractive. Small size also makes informal communication both convenient and effective. All new organizations tend to adopt the simple structure because management has not had the time to elaborate the structure. A simple environment is easily comprehended by a single individual, yet the structure's flexibility allows it to respond rapidly to unpredictable contingencies.

The matrix attempts to obtain the advantages of specialization without its disadvantages. When the organization has multiple programs or products and functional departmentalization, it can create program or product managers who direct activities across functional lines.

The network structure is a product of the computer revolution. By being linked to other organizations, an industrial firm can be in the manufacturing business without having to build and operate its own plants. The network is an excellent vehicle for the manufacturing firm that is just getting started because it minimizes risks and commitments. Because it requires few fixed assets, it also lessens financial demands on the organization. To succeed, however, management must be skilled in developing and maintaining relationships with suppliers. If any one of the firms that the network organization has contracted with fails to meet its commitments, the network organization ends up the loser.

The task force and committee structures were offered as appendages to mechanistic structures. Both are meant to be used when it is necessary to bring together



TABLE 11-1 Organization Design Options

Design	Strengths	When and Where to Use
Functional	Economies through specialization	In single-product or -service organizations
Divisional	High accountability for results	In large organizations; in multiple-product or multiple-market organizations
Simple	Speed, flexibility, economy	In small organizations; during formative years of development; in simple and dynamic environments
Matrix	Economies through specialization and accountability for product results	In organizations with multiple products or programs that rely on functional expertise
Network	Speed, flexibility, economy	In industrial firms; during formative years of development; when many reliable suppliers are available; when low-cost foreign labor is available
Task force	Flexibility	In organizations with important tasks that have specific time and performance standards, that are unique and unfamiliar, that require expertise that crosses functional lines
Committee	Flexibility	In organizations with tasks that require expertise that crosses functional lines

personnel from across functional lines. Because the task force is a temporary design, it is also an ideal vehicle for tackling important tasks that have specific time and performance standards and that are unique and unfamiliar. Once a task is familiar and needs to be repeated, a mechanistic design can handle it in a more standardized and efficient manner.

## Job Design Options

If you put an organization under a microscope, you would find that it is composed of thousands, maybe even millions, of tasks. These tasks, in turn, are aggregated into jobs.<sup>10</sup> The jobs that people do in any organization should not evolve by chance. Management should design jobs thoughtfully to reflect the organization's technology, as well as the skills, abilities, and preferences of its employees. When this is done, employees can reach their full productive capabilities.

We use the term **job design** to refer to the way in which tasks are combined to form complete jobs. Some jobs are routine because the tasks are standardized and repetitive; others are nonroutine. Some require a large number of varied and diverse skills; others are narrow in scope. Some jobs constrain employees by requiring them to follow very precise procedures; others allow employees substantial freedom in how they do their work. Some jobs are most effectively accomplished by groups of employees working as a team, whereas other jobs are best done by individuals acting independently. Our point is that jobs differ in the way their tasks are combined, and these different combinations create a variety of job designs.

### job design

The way in which tasks are combined to form complete jobs.

### job rotation

Periodic lateral transfers of workers among jobs involving different tasks.

## Job Specialization

For the first half of this century, job design was synonymous with division of labor or job specialization. Using guidelines laid down by the likes of Adam Smith and Frederick Taylor, managers sought to make jobs in organizations as simple as possible. This meant dividing them into minute, specialized tasks (see Figure 11-7 for specialized jobs required to construct an office building). However, as we noted earlier, jobs can become too specialized. When this happens, employees often begin to rebel. They express their frustrations and boredom by taking "mental health days" off, socializing around the workplace instead of being productive, ignoring the quality of their work, or abusing alcohol and drugs. Efficiency then declines.

The principles of job specialization continue to guide the design of many jobs. Manufacturing workers still perform simple, repetitive jobs on assembly lines. Office clerks sit at computer terminals and perform standardized tasks. Even nurses, accountants, and other professionals find that many of their tasks require performing narrow, specialized activities.

## Job Rotation

One of the earliest efforts at moving away from job specialization and its drawbacks was the introduction of **job rotation**. This approach to job design allows workers to diversify their activities and avoid boredom.

There are actually two types of rotation: vertical and horizontal. *Vertical* rotation refers to promotions and demotions. When we talk about job rotation, however, we mean the *horizontal* variety.

Horizontal job transfers can be instituted on a planned basis—that is, by means of a training program whereby the employee spends two or three months in an activity and is then moved on. (See Figure 11-8 on page 323). This approach, for example, is common among large Wall Street law firms, in which new associates work for many different partners before choosing an area of specialization. Horizontal transfers can also be made on a situational basis by moving the person to another activity when the previous one is no longer challenging or when the needs of work scheduling require it. In other words, people may be put in a continual transfer mode. Rotation, as employed by many large organizations in their programs to develop managerial talent, may include moving people between line and staff positions, often allowing a worker to understudy a more experienced employee.

The advantages of job rotation are clear. It broadens employees and gives them a range of experiences. Boredom and monotony, which develop after a person has acquired the skills to perform his or her task effectively, are reduced when transfers are made frequently. Finally, since a broader experience permits a greater understanding of other activities within the organization, people are more rapidly prepared to assume greater responsibility, especially at the upper echelons. In other words, as one moves up in the organization, it becomes increasingly necessary to understand the intricacies and interrelationships of activities; and these skills can be more quickly acquired by moving about within the organization.

On the other hand, job rotation is not without its drawbacks. Training costs are increased, and productivity is reduced by moving a worker into a new position just when his or her efficiency at the prior job was creating organizational economies. An extensive rotation program can result in a vast number of employees being situated in positions for which their experience is very limited. Even though there might be significant long-term benefits from the program, the organization must be equipped to deal with the day-to-day problems that arise when inexperienced personnel perform new tasks and when rotated managers make decisions based on little experience with the activity at hand. Job rotation can also demotivate intelligent and

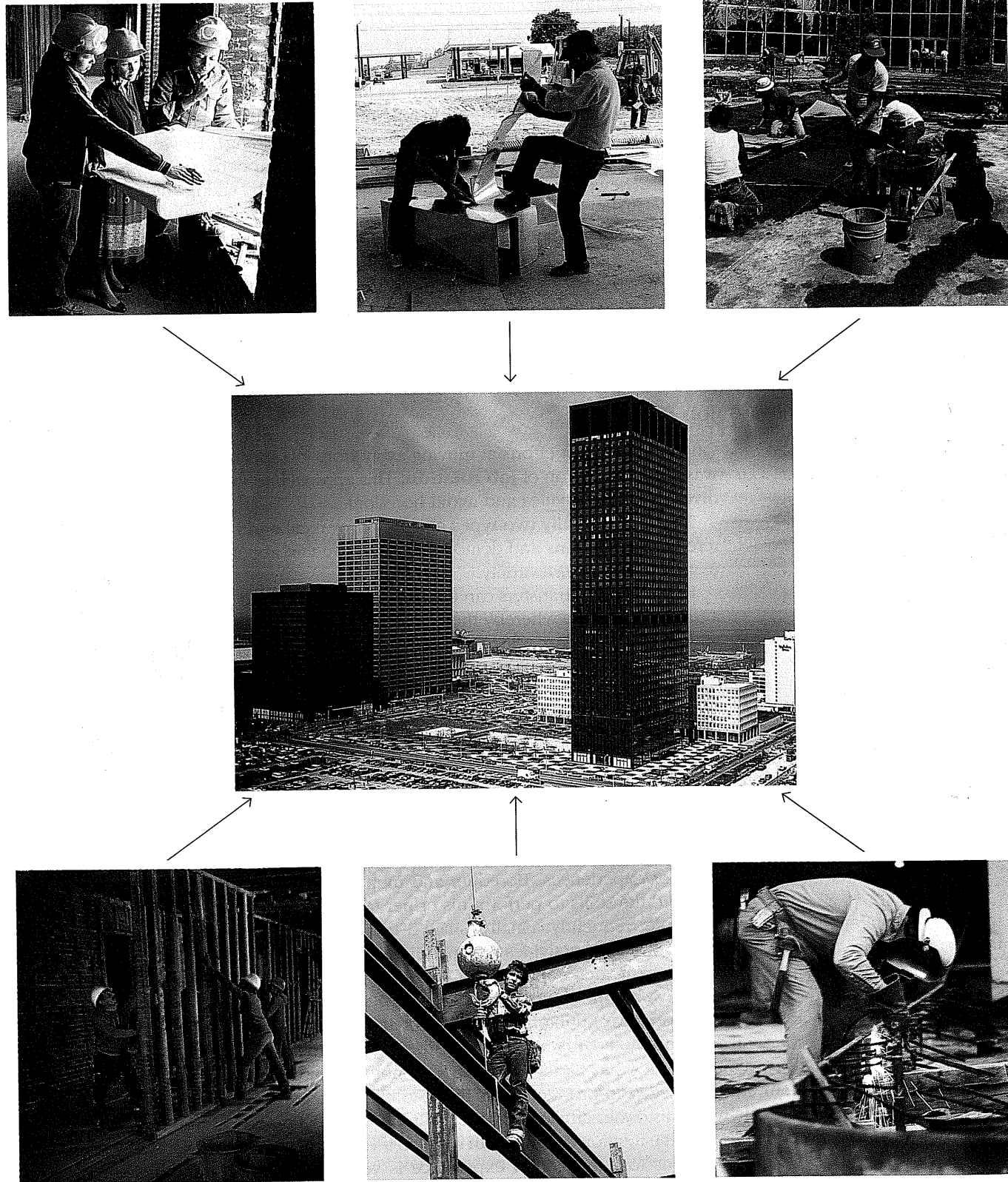
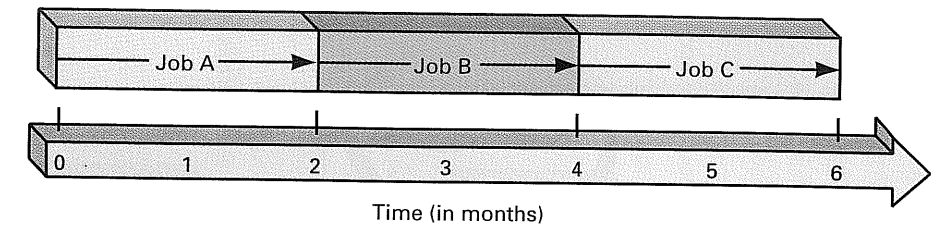


FIGURE 11-7  
Job Specialization

FIGURE 11-8  
Job Rotation



aggressive trainees who seek specific responsibility in their chosen specialty. Finally, there is some evidence that rotation that is involuntarily imposed on employees increases absenteeism and accidents.<sup>11</sup>

**Job Enlargement**

Another early effort at increasing the horizontal diversity in a worker's tasks was **job enlargement**. This option increases **job scope**; that is, it increases the number of different tasks required in a job and decreases the frequency with which the job cycle is repeated. (See Figure 11-9.) By increasing the number of tasks an individual performs, job enlargement increases job diversity. Instead of only sorting the incoming mail by department, for instance, a mail sorter's job could be enlarged to include physically delivering the mail to the various departments or running outgoing letters through the postage meter.

Efforts at job enlargement have met with less-than-enthusiastic results. As one employee who experienced such a redesign on his job remarked, "Before I had one lousy job. Now, through enlargement, I have three lousy jobs!" Job enlargement attacked the lack of diversity in overspecialized jobs, but it provided few challenges and little meaning to a worker's activities.

**Job Enrichment**

More than seven thousand sales clerks at a number of Montgomery Ward stores are taking on responsibilities—including approving checks and handling merchandise-return problems—that historically had been reserved for store managers.<sup>12</sup> These Ward's employees have had their jobs enriched. Job enrichment has proven effective in dealing with some of the shortcomings of job enlargement.

**Job enrichment** increases **job depth** (see Figure 11-10). What this means is that

**job enlargement**

The horizontal expansion of a job; an increase in job scope.

**job scope**

The number of different tasks required in a job and the frequency with which the job cycle is repeated.

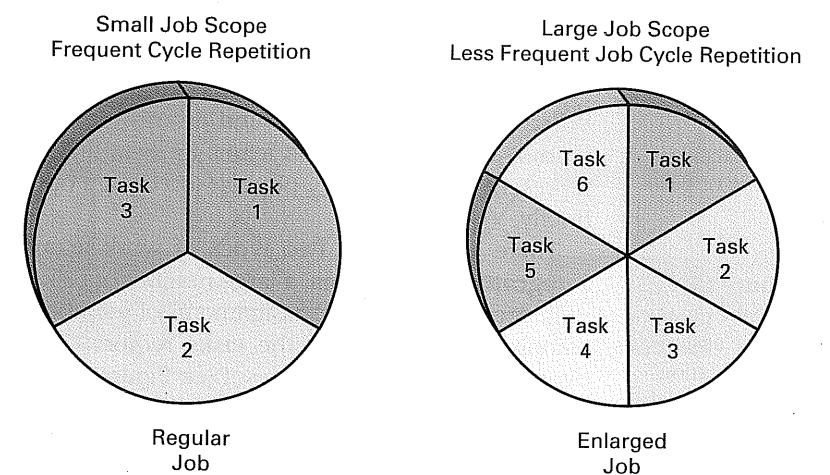
**job enrichment**

Vertical expansion of a job by adding planning and evaluating responsibilities.

**job depth**

The degree of control employees have over their work.

FIGURE 11-9  
Job Enlargement





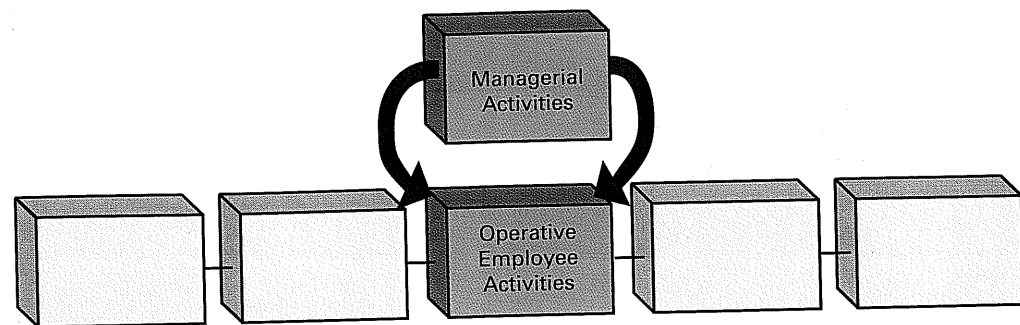


FIGURE 11-10 Job Enrichment



This wood room operator at Superior Paper Co. is required to master up to 14 area skills before she is eligible for promotion. The reason? Superior's management finds that flexibility boosts productivity.

job enrichment allows employees greater control over their work. They're allowed to assume some of the tasks typically done by their supervisors—particularly planning and evaluating their own work. The tasks in an enriched job should allow workers to do a complete activity with increased freedom, independence, and responsibility; these tasks should also provide feedback so that individuals can assess and correct their own performances.

How does management enrich jobs? Citibank found that its back office, where personnel processed all the firm's financial transactions, was suffering severe backlogs and unacceptably high error rates.<sup>13</sup> The source of the problem was believed to be the design of jobs in this area. Jobs were split up so each person performed a single, routine task over and over again. Citibank's management enriched these jobs by redesigning the work around customer types. Tasks were combined, and individual employees were given complete processing and customer-service responsibility for a small group of customers in a defined product area. In the newly designed jobs, employees dealt directly with customers and handled entire transactions from start to finish. And when a problem occurred, the employee responsible received the complaint directly and was accountable for solving it. The result? This enrichment program improved the quality of work as well as employee motivation and satisfaction.

The Citibank example shouldn't be taken as a blanket endorsement of job enrichment. The evidence generally shows that job enrichment reduces absenteeism and turnover costs; but on the critical issue of productivity, the evidence is inconclusive.<sup>14</sup> In some situations, job enrichment has increased productivity; in others, it has decreased it. However, when productivity decreases, there does appear to be consistently more conscientious use of resources and a higher quality of product or service.

**Work Teams**

When jobs are designed around groups rather than individuals, the result is **work teams**. We'll discuss work teams in detail in Chapter 14. However, because teams represent an increasingly popular job design option, we need to consider them here briefly.

There are basically two types of work teams: integrated and self-managed. In **integrated work teams**, a large number of tasks are assigned to a group. The group then decides the specific assignments of members and is responsible for rotating jobs among the members as the tasks require. The team still has a supervisor who oversees the group's activities. (See Figure 11-11.) Integrated work teams are used frequently in such activities as building maintenance and construction. In the cleaning of a large office building, for example, the foreman will identify the tasks to be completed and then let the maintenance workers, as a group, choose how the tasks

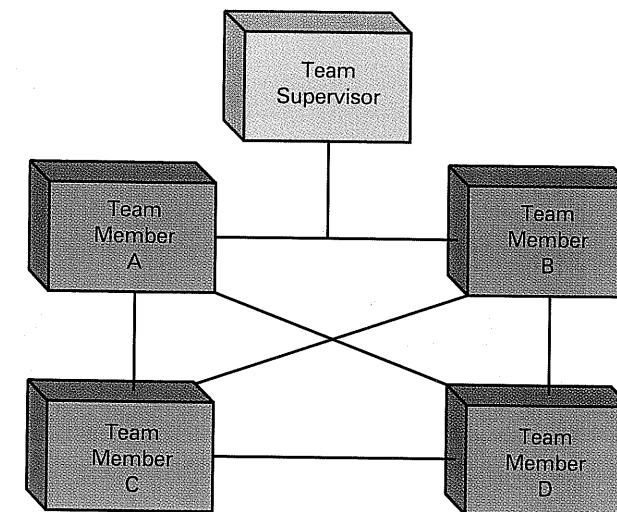
**work teams**

Groups of individuals that cooperate in completing a set of tasks.

**integrated work team**

A group that accomplishes many tasks by making specific assignments to members and rotating jobs among members as the tasks require.

FIGURE 11-11 Integrated Work Teams



**self-managed work team**

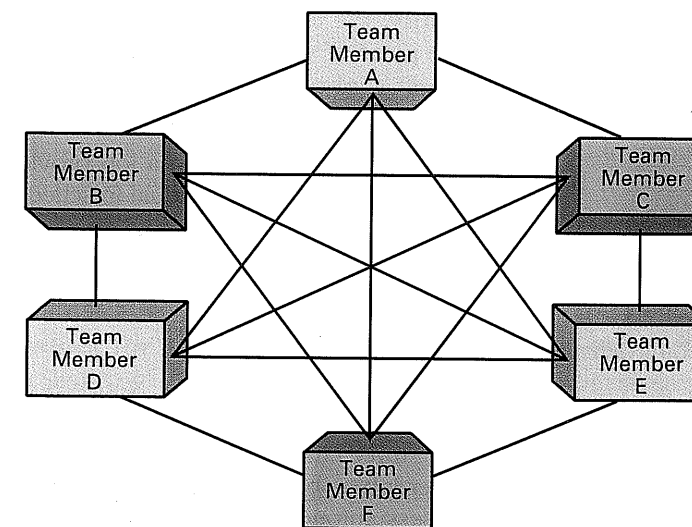
A vertically integrated team that is given almost complete autonomy in determining how a task will be done.

are to be allocated. Similarly, a road construction crew frequently decides, as a group, how its various tasks are to be completed.

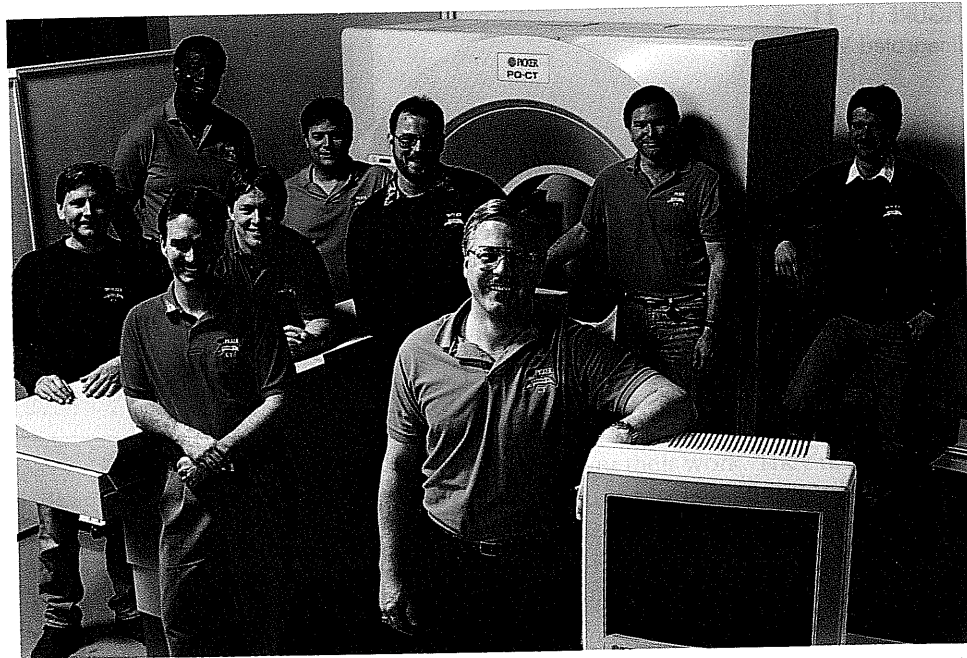
**Self-managed work teams** are more vertically integrated and have a wider range of discretion than their integrated counterparts. The self-managed work team is given a goal to achieve and then is free to determine work assignments, rest breaks, inspection procedures, and so forth.<sup>15</sup> These teams often even select their own members and have the members evaluate one another's performances. As a result, supervisory positions become less important and may sometimes be eliminated. (See Figure 11-12.)

Thousands of organizations have redesigned their employees' work tasks around self-managed teams. Maybe the most visible examples are in the auto industry. Chrysler used these teams to develop their elite new Viper sports car and their LH line of mid-sized cars. General Motors uses teams to build its Saturn cars. And Volvo has been using self-managed teams for years to build its automobiles. But self-managed teams have wide applications beyond automobile manufacturing. AT&T, for instance, implemented them in 1990 at the company's submarine systems plant in New Jersey.

FIGURE 11-12 Self-Managed Work Teams



The use of self-managed teams at Picker International, a manufacturer of high-tech x-ray equipment, has resulted in a doubling of productivity over the past five years.



In two years, the teams successfully reduced costs by more than 30 percent and saved the plant from being closed.<sup>16</sup>

**job characteristics model**

A framework for analyzing and designing jobs; identifies five primary job characteristics, their interrelationships, and impact on outcome variables.

**skill variety**

The degree to which a job includes a variety of activities that call for a number of different skills and talents.

**task identity**

The degree to which a job requires completion of a whole and identifiable piece of work.

**task significance**

The degree to which a job has a substantial impact on the lives or work of other people.

**autonomy**

The degree to which a job provides substantial freedom, independence, and discretion to an individual in scheduling and carrying out his or her work.

**feedback**

The degree to which carrying out the work activities required by a job results in an individual's obtaining direct and clear information about the effectiveness of his or her performance.

**The Job Characteristics Model**

None of the prior approaches provided a conceptual framework for analyzing jobs or for guiding managers in designing jobs. The **job characteristics model** (JCM) offers such a framework.<sup>17</sup> It identifies five primary job characteristics, their interrelationships, and their impact on employee productivity, motivation, and satisfaction.

**Core Dimensions** According to the JCM, any job can be described in terms of five core dimensions, defined as follows:

**Skill variety**, the degree to which a job requires a variety of activities so that an employee can use a number of different skills and talents.

**Task identity**, the degree to which a job requires completion of a whole and identifiable piece of work.

**Task significance**, the degree to which a job has a substantial impact on the lives or work of other people.

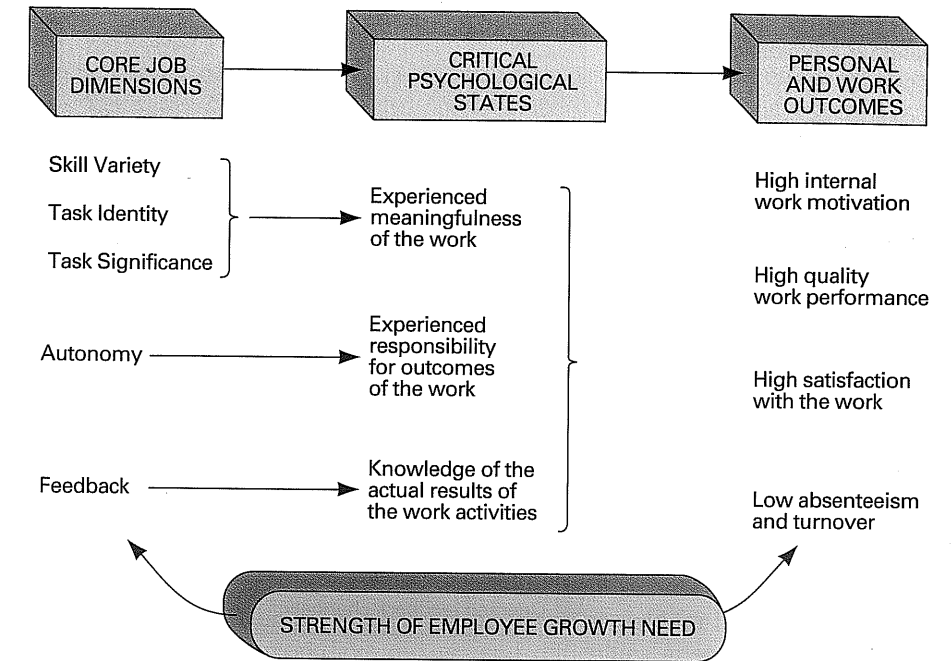
**Autonomy**, the degree to which a job provides substantial freedom, independence, and discretion to the individual in scheduling the work and determining the procedures to be used in carrying it out.

**Feedback**, the degree to which carrying out the work activities required by a job results in the individual's obtaining direct and clear information about the effectiveness of his or her performance.

Figure 11-13 presents the model. Notice how the first three dimensions—skill variety, task identity, and task significance—combine to create meaningful work. That is, if these three characteristics exist in a job, we can predict that the person will view his or her job as being important, valuable, and worthwhile. Notice, too, that jobs that possess autonomy give the job incumbent a feeling of personal respon-

**FIGURE 11-13**  
Job Characteristics Model

Source: J. Richard Hackman and J. Lloyd Shuttle, eds., *Improving Life at work* (Glenview, IL: Scott, Foresman and Co., 1977). With permission of authors.



sibility for the results and that, if a job provides feedback, the employee will know how effectively he or she is performing.

From a motivational standpoint, the model says that internal rewards are obtained when one *learns* (knowledge of results) that one *personally* (experienced responsibility) has performed well on a task that one *cares about* (experienced meaningfulness).<sup>18</sup> The more these three conditions are present, the greater will be the employee's motivation, performance, and satisfaction, and the lower his or her absenteeism and likelihood of resigning. As the model shows, the links between the job dimensions and the outcomes are moderated or adjusted for by the strength of the individual's growth need—that is, the employee's desire for self-esteem and self-actualization. This means that individuals with a high growth need are more likely to experience the psychological states when their jobs score high on the core dimensions than are their low-growth-need counterparts. High-growth-need individuals will respond more positively to the psychological states, when they are present, than will low-growth-need individuals.

**Predictions from the Model** The core dimensions can be combined into a single index as shown in Figure 11-14. To score high on motivating potential, jobs must be high on at least one of the three factors that lead to experiencing meaningfulness; they must also be high on both autonomy and feedback. If jobs score high on motivating potential, the model predicts that motivation, performance, and satisfaction will be positively affected, while the likelihood of absence and turnover will be lessened.<sup>19</sup>

**Guides for Managers** The JCM provides specific guidance to managers in the designing of jobs. (See Figure 11-15.) The following suggestions, which derive from the JCM, specify the types of changes in jobs that are most likely to lead to improvements in each of the five core dimensions:

1. **Combine tasks.** Managers should put existing fractionalized tasks back together to form a new, larger module of work. This increases skill variety and task identity.



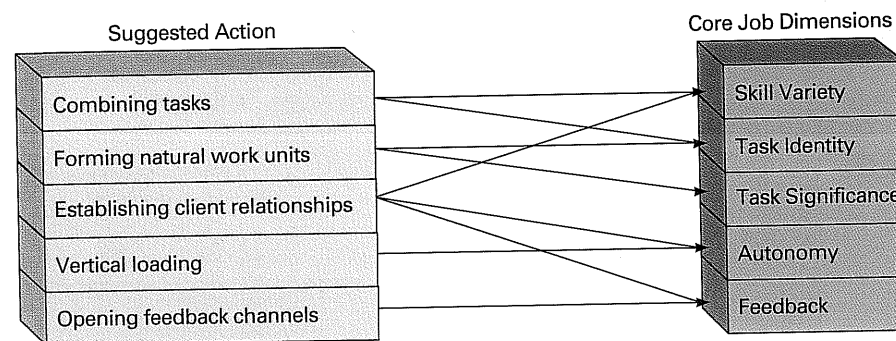
**FIGURE 11-14**  
Computing a Motivating Potential Score

Source: J. Richard Hackman and J. Lloyd Shuttle, eds., *Improving Life at Work* (Glenview, IL: Scott, Foresman and Co., 1977). With permission of authors.

$$\text{Motivating Potential Score (MPS)} = \left[ \frac{\text{Skill Variety} + \text{Task Identity} + \text{Task Significance}}{3} \right] \times \text{Autonomy} \times \text{Feedback}$$

**FIGURE 11-15**  
Guidelines for Job Redesign

Source: J. Richard Hackman and J. Lloyd Shuttle, eds., *Improving Life at Work* (Glenview, IL: Scott, Foresman and Co., 1977). With permission of authors.



2. *Create natural work units.* Managers should design tasks that form an identifiable and meaningful whole. This increases employee “ownership” of the work and encourages employees to view their work as meaningful and important rather than as irrelevant and boring.
3. *Establish client relationships.* The client is the user of the product or service that the employee works on. Wherever possible, managers should establish direct relationships between workers and their clients. This increases skill variety, autonomy, and feedback for the employee.
4. *Expand jobs vertically.* Vertical expansion gives employees responsibilities and controls that were formerly reserved for management. It partially closes the gap between the “doing” and “controlling” aspects of the job, and it increases employee autonomy.
5. *Open feedback channels.* By increasing feedback, employees not only learn how well they are performing their jobs but also whether their performances are improving, deteriorating, or remaining at a constant level. Ideally, employees should receive performance feedback directly as they do their jobs rather than from management on an occasional basis.<sup>20</sup>

**Scheduling Options**

A final set of job design options deals with the scheduling of work. For instance, a job for most people in North America means leaving home and going to a place of work, arriving at 8:00 or 9:00 in the morning, putting in a fixed set of approximately eight hours, and doing this routine five days a week. However, it doesn't have to be this way. Depending on labor-market conditions, the type of work that has to be done, and employee preferences, management might consider implementing a compressed workweek of four days, flexible work hours, or job sharing. Management also might consider using contingent or temporary workers or allowing employees to work at home through telecommuting.

**compressed workweek**

A workweek comprised of four ten-hour days.

**The Compressed Workweek** We define the **compressed workweek** as comprised of four ten-hour days. While there have been experiments with three-day



The jobs of many crafts people, such as this stained glass artist, score high on the job characteristics model.

weeks and other compressed workweek variants, we will limit our attention to four-day, forty-hour (4-40) programs.

Their proponents claim that 4-40 programs have a favorable effect on employee absenteeism, job satisfaction, and productivity.<sup>21</sup> Some argue that a four-day workweek provides employees with more leisure time, decreases commuting time, decreases requests for time off for personal matters, makes it easier for an organization to recruit employees, and decreases time spent on tasks such as setting up equipment. However, some potential disadvantages have been noted. Among these are a decrease in workers' productivity near the end of the longer workday, a decrease in service to customers and clients, unwillingness to work longer days when needed to meet deadlines, and underutilization of equipment.<sup>22</sup>

Maybe the most telling characteristic of the four-day workweek, from management's perspective, is that it appears to have different short-term and long-term effects.<sup>23</sup> When first implemented, the compressed workweek achieves many of the results claimed by its advocates: higher morale, less dissatisfaction, and less absenteeism and turnover. However, after approximately one year many of these advantages disappear. Employees then begin to complain about increased fatigue and the difficulty of coordinating their jobs with their personal lives (the latter is a particular problem for working mothers). Managers also find drawbacks. More scheduling of work is involved, overtime rates frequently must be paid for hours worked in excess of eight during the workday, and general difficulties arise in coordinating work. Moreover, since managers still tell employees when to arrive and when to leave, the compressed workweek does little to increase the worker's freedom, specifically in the selecting of work hours that suit him or her best.

As a result, the compressed workweek is no panacea for dealing with the problems of standardized jobs. It has been suggested, however, that the desire for increased worker freedom can be achieved through flexible work hours.

**flexible work hours (flextime)**

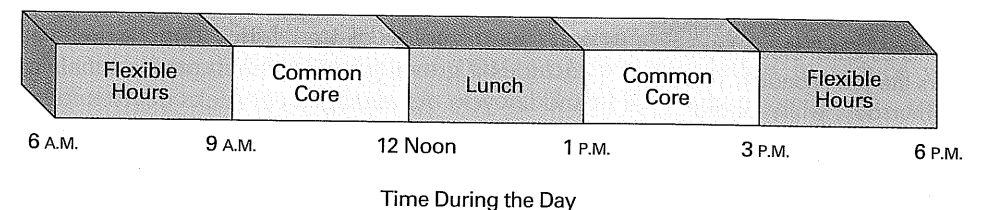
A scheduling system in which employees are required to work a number of hours a week, but are free, within limits, to vary the hours of work.

**Flexible Work Hours** Flexible work hours (also popularly known as **flextime**) is a scheduling system in which employees are required to work a specific number of hours a week, but are free to vary those hours within certain limits. As shown in Figure 11-16, each day consists of a common core, usually five or six hours, with a flexibility band surrounding it. For example, not counting a one-hour lunch break, the core may be 9:00 A.M. to 3:00 P.M., with the office actually opening at 6:00 A.M. and closing at 6:00 P.M. All employees are required to be at their jobs during the common-core periods, but they are allowed to accumulate their remaining hours from before and/or after the core time. Some flextime programs allow extra hours to be accumulated and turned into a free day off each month.

How widespread is flextime? In the early 1970s, few organizations offered this scheduling option. By the early 1990s, about 40 percent of major companies offered the flextime option.<sup>24</sup> These include such companies as Aetna Life & Casualty, Avon Products, Du Pont, and Hewlett-Packard.

And what is flextime's record? Most of the evidence stacks up favorably. It tends to reduce absenteeism, improve morale, and improve worker productivity.<sup>25</sup> For example, one study found that flextime reduced tardiness in 42 percent of the companies

**FIGURE 11-16**  
A Flexible Work Schedule



surveyed, improved morale in 39 percent, and improved productivity in 33 percent.<sup>26</sup> The explanation for these findings is that flextime allows employees to schedule their work hours to better align with personal demands, and employees are able to exercise discretion over their work hours. The result is that employees are more likely to adjust their work activities to the hours during which they are individually more productive and that better align with their off-work commitments.

Of course, flextime does have drawbacks, especially in its effect on the manager's job.<sup>27</sup> It produces problems for managers in directing subordinates outside the common-core period, causes confusion in shift work, increases difficulties when someone with a particular skill or knowledge is not available, and makes planning and controlling more cumbersome and costly for managers. Also, keep in mind that many jobs can't be converted to flextime: salesperson in a department store, office receptionist, and assembly-line operator are examples of jobs in which the jobholder must depend on others inside or outside the organization—and vice versa. Where such interdependence exists, flextime is usually not a viable alternative.

**Job sharing** Job sharing is a recent work-scheduling innovation. It allows two or more employees to split a traditional forty-hour-a-week job. So, for example, one person might perform the job from 8 A.M. to 12 P.M., while another performs the same job from 1 P.M. to 5 P.M.

Because job sharing is a newer idea than flextime, its use is less common, but it is gaining an increasing following. About 16 percent of U.S. business firms allow job sharing; 11 percent have actually set up job-sharing programs.<sup>28</sup>

Why would management opt for job sharing? It allows the organization to draw upon the talents of more than one individual in a given job and to acquire skilled workers who might not be available on a full-time basis. For instance, retirees and individuals with school-age children may not be responsive to the demands of a full-time position but would work in a job in which those demands could be shared with others. In addition, job sharing can enhance productivity. Job sharers typically have better attendance records than regular, full-time employees.<sup>29</sup> And as an executive at Northeast Utilities Service Co. observed, while full-time employees seldom work to their maximum all day, two job sharers often give four hours of "full-bore production."<sup>30</sup>

**Contingent workers** Organizations that face dynamic environments need staffing flexibility. That explains why more and more organizations are using **contingent workers**—temporaries and part-timers who supplement an organization's permanent work force.<sup>31</sup> For instance, 8 percent of Delta Air Lines' work force is made up of employees who understand that their jobs are temporary.<sup>32</sup> At Apple Computer, it's almost 17 percent.<sup>33</sup> Through contingent workers, companies like Delta and Apple can boost productivity in busy times and avoid painful layoffs and bad publicity in slack periods by keeping their stable core of permanent employees small. Thus the use of contingent workers allows management a great deal of increased flexibility. Contingent jobs, in turn, satisfy workers' needs for autonomy and job diversity. On the negative side, for people who want the stability of permanent jobs, contingent-worker status can be demoralizing and even perceived as a second-class status in the labor force.<sup>34</sup>

Contingent workers now represent 25 percent of the work force, and their number is growing at a rate of 20 percent annually.<sup>35</sup> Contingent workers include low-skilled part-time employees and office temporaries, but the contingent work force also includes a growing pool of such professionals as computer designers, accountants, and lawyers. As management seeks devices to increase organizational flexibility, we can expect to see more organizations creating two-tier labor systems—a small core of permanent employees supplemented by a continually expanding and shrinking pool of contingent workers.

#### job sharing

The practice of having two or more people split a forty-hour-a-week job.

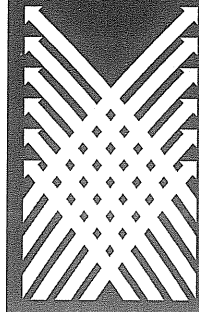
#### contingent workers

Temporary and part-time workers who supplement an organization's permanent work force.



Joan Girardi (left) and Stephanie Kahn are job sharing at American Express. They enroll college students as cardholders. Kahn covers the job Monday, Tuesday, and Thursday, while Girardi works on Tuesday, Wednesday, and Friday. Each supervises two of their team's four professionals.

#### ETHICAL DILEMMAS IN MANAGEMENT



### Are Organizations Exploiting Contingent Workers?

Contingent workers provide management with increased flexibility—but at what price to the workers themselves?

For some workers, the rapid growth in demand for contingent workers is a blessing. For example, it is a great opportunity for people who want to work only on a part-time basis. Being a disposable employee, however, is not necessarily a status everyone seeks willingly. Data from the Bureau of Labor Statistics indicate that 3.8 million part-timers would prefer full-time work but can't find it.<sup>36</sup>

Contingent workers often suffer in terms of pay and benefits. On average, they earn 40 percent less than permanent employees. Some 70 percent of part-timers have no employee-provided retirement plan, and 42 percent receive no health insurance coverage.<sup>37</sup>

Are organizations that use contingent workers cutting costs by exploiting these people? Are these organizations shirking their responsibilities to these workers and to society as a whole? Should federal legislation be passed that would mandate minimum fringe benefits for part-time workers? What do *you* think?

#### telecommuting

The linking by computer and modem of workers at home with co-workers and management at an office.

**Telecommuting** Computer technology is opening still another alternative for managers in the way they arrange jobs. That alternative is to allow employees to perform their work at home by **telecommuting**.<sup>38</sup> Many white-collar occupations can now be carried out at home—at least technically. A computer in an employee's home can be linked to those of co-workers and managers by modems.

In the United States, approximately 5.5 million people now telecommute, doing such things as taking orders over the phone, filling out reports and other forms, and processing or analyzing information.<sup>39</sup> Among employers who offer telecommuting as an option are major companies such as Levi Strauss, Pacific Bell, AT&T, IBM, Johnson & Johnson, American Express, and J.C. Penney.

For employees, the two biggest pluses of telecommuting are the decrease in the time and stress of commuting in urban areas and the increase in flexibility in coping with family demands. But it also introduces potentially new problems for employees. For example, will they miss the regular social contact that a formal office provides? Might they be less likely to be considered for salary increases and promotions? Is being out of sight equivalent to being out of mind? Answers to questions such as these are central to determining whether telecommuting will continue to expand in the future.

### TQM and Structural Design

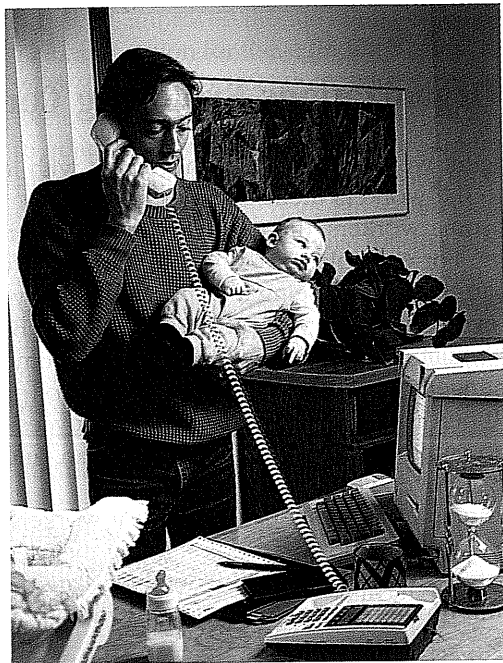
Several concepts introduced in this and the prior chapter have become important components in the Total Quality Management movement. These include vertical differentiation, division of labor, and centralization.

One common characteristic of TQM programs is an effort to reduce vertical differentiation. By widening spans of control and flattening organizations, management cuts overhead and improves vertical communication.

A second common TQM characteristic is reduced division of labor. High division of labor emphasizes specialization, promotes an "us versus them" mentality, and



One of the advantages of telecommuting is that it allows employees to better balance their work and family responsibilities.



retards collaboration and horizontal communication. As a result, TQM encourages enrichment of jobs and the use of teams that cut across functional specializations.

Finally, TQM emphasizes decentralized decision making. Authority and responsibility are pushed as far down, and as close to the customer, as is possible. The reason, of course, is that TQM's success depends on quickly and continually responding to the changing needs of customers.

Amoco Production Co. illustrates the effectiveness of these structural changes.<sup>40</sup> The company, a subsidiary of the Chicago oil giant, realized that its matrix structure—six tiers of management cross-laden with a multitude of functional units—had become too cumbersome. Geologists, for instance, were spending nearly 40 percent of their time in committee meetings trying to get approvals to search for oil when they actually could have been searching for oil. So Amoco's management reorganized. They eliminated three layers of management and dismantled the functional hierarchies. Workers were grouped into units of approximately 500, organized around multidisciplinary teams, and given considerable authority to make decisions. Noted one unit leader, "We're finding more oil and getting better financial results with the same number of professionals and fewer managers."<sup>41</sup>

## Summary

*This summary is organized by the chapter-opening learning objectives found on page 307.*

1. The functional structure groups similar or related occupational specialties together. It takes advantage of specialization and provides economies of scale by allowing people with common skills to work together.
2. The divisional structure is composed of autonomous units, with managers having full responsibility for a product or service. However, these units are frequently organized as functional structures inside their divisional framework. So divisional structures typically contain functional structures within them.

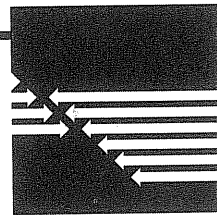
3. The simple structure is low in complexity, has little formalization, and has authority centralized in a single person. It is widely used in small businesses.
4. By assigning specialists from functional departments to work on one or more projects led by project managers, the matrix structure combines functional and product departmentalization. It thus has the advantage of both specialization and high accountability.
5. The recent popularity of the network structure is due to its high flexibility. It allows management to perform manufacturing, distribution, marketing, or other crucial business functions with a minimal commitment of resources.
6. Organic appendages allow organizations to be responsive and flexible while, at the same time, maintaining an overall mechanistic structure.
7. Job specialization is concerned with breaking jobs down into ever-smaller tasks. Job enlargement is the reverse. It expands jobs horizontally by increasing their scope. Like enlargement, job enrichment expands jobs, but vertically rather than horizontally. Enriched jobs increase depth by allowing employees greater control over their work.
8. The core job dimensions in the job characteristics model are skill variety, task identity, task significance, autonomy, and feedback.
9. The main advantage of flexible work hours is greater freedom for employees. It allows them to complete nonwork commitments without incurring absences. Additionally, it allows employees to better align their work schedule with their personal productivity cycle. The major drawback of flexible work hours is that it creates coordination problems for managers.
10. TQM encourages low vertical differentiation, minimal division of labor, and decentralized decision making.

## Review Questions

1. Show how both the functional and matrix structures might create conflict within an organization.
2. Why is the simple structure inadequate in large organizations?
3. When should management use
  - a. the matrix structure?
  - b. the network structure?
  - c. a task force?
4. Contrast *job enlargement* with *job enrichment* in terms of the job characteristics model.
5. Describe how a job can be enriched.
6. Why would managers choose to have job sharing programs?
7. Compare the compressed work week to flextime. What advantages and disadvantages do they each have?
8. If you were a manager, why might you resist offering flexible work hours to your employees?
9. Why might professionals who could find permanent jobs seek employment as contingent workers?
10. Why might telecommuting prove to be better in theory than in practice?

## Discussion Questions

1. Can an organization have *no* structure?
2. Which structural design—divisional, simple, or matrix—would you most prefer to work in? Least prefer? Why?
3. Do you study in groups or alone? Which do you feel is more effective? Relate your answer to designing jobs in the 1990s.
4. Identify two jobs that you're familiar with: one that you think you would like to do continuously and one that you would never want to do. Compare them in terms of the JCM. Compare them also in terms of compensation and prestige in the community. Do you think compensation and prestige are positively correlated with a high MPS?
5. "What a manager does in terms of the *organizing function* depends on what level he or she occupies in the organizational hierarchy." Discuss.



## SELF-ASSESSMENT EXERCISE

### Is an Enriched Job for You?

Instructions: People differ in what they like and dislike in their jobs. Listed below are twelve pairs of jobs. For each pair, indicate which job you would prefer. Assume that everything else about the jobs is the same—pay attention only to the characteristics actually listed for each pair of jobs. If you would prefer the job in the left-hand column (Column A), indicate how much you prefer it by putting a check mark in a blank to the left of the Neutral point. If you prefer the job in the right-hand column (Column B), check one of the blanks to the right of Neutral. Check the Neutral blank only if you find the two jobs equally attractive or unattractive. Try to use the Neutral blank rarely.

Column A	Column B
1. A job that offers little or no challenge.	A job that requires you to be completely isolated from co-workers.
2. A job that pays very well.	A job that allows considerable opportunity to be creative and innovative.
3. A job that often requires you to make important decisions.	A job in which there are many pleasant people to work with.
4. A job with little security in a somewhat unstable organization.	A job in which you have little or no opportunity to participate in decisions that affect your work.

Column A	Column B
5. A job in which greater responsibility is given to those who do the best work.	A job in which greater responsibility is given to loyal employees who have the most <i>seniority</i> .
6. A job with a supervisor who sometimes is highly critical.	A job that does not require you to use much of your talent.
7. A very routine job.	A job in which your co-workers are not very friendly.
8. A job with a supervisor who respects you and treats you fairly.	A job that provides constant opportunities for you to learn new and interesting things.
9. A job that gives you a real chance to develop yourself personally.	A job with excellent vacations and fringe benefits.
10. A job in which there is a real chance you could be laid off.	A job with very little chance to do challenging work.
11. A job with little freedom and independence to do your work in the way you think best.	A job with poor working conditions.
12. A job with very satisfying teamwork.	A job that allows you to use your skills and abilities to the fullest extent.

Turn to page SK-3 for scoring directions and key.

Source: J. R. Hackman and G. R. Oldham (1974), *The Job Diagnostic Survey: An Instrument for the Diagnosis of Jobs and the Evaluation of Job Redesign Projects*. Technical Report No. 4. New Haven, Conn.: Yale University, Department of Administrative Sciences. With permission.