Chapter 10

Designing Adaptive Organizations

Chapter Outline

I. Organizing the Vertical Structure
   A. Work Specialization
   B. Chain of Command
   C. Span of Management
   D. Centralization and Decentralization

II. Departmentalization
   A. Vertical Functional Approach
   B. Divisional Approach
   C. Matrix Approach
   D. Team Approach
   E. The Virtual Network Approach
   F. Advantages and Disadvantages of Each Structure

III. Organizing for Horizontal Coordination
   A. The Need for Coordination
   B. Task Forces, Teams, and Project Management
   C. Reengineering

IV. Factors Shaping Structure
   A. Structure Follows Strategy
   B. Structure Reflects the Environment
   C. Structure Fits the Technology

Annotated Learning Objectives

After studying this chapter, students should be able to:

1. Discuss the fundamental characteristics of organizing including such concepts as work specialization, chain of command, span of management, centralization versus decentralization.

Organizing is important because it follows the management function of planning. Planning and strategy define what to do; organizing defines how to do it. Organization structure is a tool that managers use to harness resources for getting
things accomplished. Organizing is the deployment of organizational resources to achieve strategic goals. The deployment of resources is reflected in the organization's division of labor into specific departments and jobs, formal lines of authority, and mechanisms for coordinating diverse organization tasks. Work specialization, sometimes called division of labor, is the degree to which organizational tasks are subdivided into separate jobs. The chain of command is an unbroken line of authority that links all persons in an organization and shows who reports to whom. The span of management is the number of employees reporting to a supervisor. Sometimes called the span of control, this characteristic of structure determines how closely a supervisor can monitor subordinates. The average span of control used in an organization determines whether the structure is tall or flat. A tall structure has an overall narrow span and more hierarchical levels. A flat structure has a wide span, is horizontally dispersed, and has fewer hierarchical levels.

Centralization and decentralization pertain to the hierarchical level at which decisions are made. Centralization means that decision authority is located near the top of the organization. With decentralization, decision authority is pushed downward to lower organization levels. Span of management, or span of control, is the number of employees reporting to a supervisor.

This characteristic of structure determines how closely a supervisor can monitor subordinates. Generally, when supervisors must be closely involved with subordinates, the span should be small, and when supervisors need little involvement with subordinates, it can be large. Formalization is the written documentation used to direct and control employees. Written documentation includes rulebooks, policies, procedures, job descriptions, and regulations. These documents complement the organization chart by providing description of tasks, responsibilities, and decision authority.

2. Describe the functional and divisional approaches to structure.

Functional structure is the grouping of positions into departments based on similar skills, expertise, and resource use. A functional structure can be thought of as departmentalization by organizational resources because each type of functional activity, personnel, engineering, manufacturing, represents specific resources for performing the organization's task. People and facilities representing a common organizational resource are grouped together into a single department.

The divisional structure occurs when departments are grouped together based on organizational outputs. In the divisional structure, divisions are created as self-contained units for producing a single product. Each functional department resource needed to produce the product is assigned to one division. For example, in a functional structure, all engineers are grouped together and work on all products. In a divisional structure, separate engineering departments are established within each division. Each department is smaller and focuses on a single product line. Departments are duplicated across product lines.
3. Explain the matrix approach to structure and its application to both domestic and international organizations.

The matrix structure uses functional and divisional chains of command simultaneously in the same part of the organization. The matrix structure has dual lines of authority. The functional hierarchy of authority runs vertically, and the divisional hierarchy of authority runs laterally. The matrix approach to structure provides a formal chain of command for both the functional and divisional relationships. The matrix structure is typically used when the organization experiences environmental pressure for both a strong functional departmentalization and a divisional departmentalization. Global corporations often use the matrix structure. The problem for global companies is to achieve simultaneous coordination of various products within each country or region and for each product line. The two lines of authority typically are geographic and product, and the matrix provides excellent simultaneous coordination.

4. Describe the contemporary team and virtual network structures and why they are being adopted by organizations.

A widespread trend in departmentalization has been the implementation of team concepts. The vertical chain of command is a powerful means of control, but moving decisions through the hierarchy takes much time and keeps responsibility at the top. The trend is to delegate authority, push responsibility to low levels, and create participative teams that engage the commitment of workers. This approach enables organizations to be more flexible and responsive in a competitive global environment. Another approach to departmentalization is the dynamic network organization. Using the network structure, the organization divides major functions into separate companies that are brokered by a small headquarters organization. The network approach is revolutionary because it is difficult to answer the question, “Where is the organization?” This organizational approach is especially powerful for international operations.

5. Explain why organizations need coordination across departments and hierarchical levels, and describe mechanisms for achieving coordination.

Coordination refers to the quality of collaboration across departments; it is required whether there is a function, divisional, or team structure. Coordination problems are amplified in the global arena, because units differ not only by goals and work activities but by distance, time, culture, and language. Coordination is the outcome of information and cooperation; managers can design systems and structures to promote horizontal coordination. The vertical structure is flattened, with perhaps only a few senior executives in traditional support functions such as finance or human resources. A task force is a temporary team or committee designed to solve a short-term problem involving several departments. Task force members represent their departments and share information that enables coordination; companies also set up cross-functional teams for coordination. Companies also use project managers, responsible for coordinating the activities of several departments on a full-time basis for the completion of a specific project. Reengineering is the radical
redesign of business processes to achieve dramatic improvements in cost, quality, service, and speed. Because the focus of reengineering is on process rather than function, reengineering generally leads to a shift away from a strong vertical structure.

6. **Identify how structure can be used to achieve an organization’s strategic goals.**

   Structure depends on a variety of **contingencies**; the right structure is “designed to fit” the contingency factors of strategy, environment, and technology. These three areas are changing for organizations, creating a need for stronger horizontal coordination. Two strategies proposed by Porter are differentiation and cost leadership; these strategies require different structural approaches. The pure functional structure is appropriate for achieving internal efficiency goals; the vertical functional structure uses task specialization and a chain of command. It does not enable the organization to be flexible or innovative. Horizontal teams are appropriate when the primary goal is innovation and flexibility; the firm can differentiate itself and respond quickly to change. Other forms of structure represent intermediate steps on the firm’s path to efficiency or innovation. The functional structure with cross-functional teams and project teams provides greater coordination and flexibility than the pure functional structure. The divisional structure promotes differentiation because each division can focus on specific products and customers.

7. **Illustrate how organization structure can be designed to fit environmental uncertainty.**

   Environmental uncertainty means that decision makers have difficulty acquiring good information and predicting external changes. An uncertain environment causes the increased differences occur among departments. The organization needs increased coordination to keep departments working together. The organization must adapt to change. The terms **mechanistic** and **organistic** explain structural responses to the external environment. When the environment is stable, the organization uses a mechanistic system; it has a rigid, vertical, centralized structure with decisions made at the top. In rapidly changing environments, the organization tends to be much looser, free-flowing, and adaptive, using an organic system. The structure is more horizontal and decision-making authority is decentralized.

8. **Define production technology (manufacturing, service, and digital) and explain how it influences organization structure.**

   The most influential research into the relationship between manufacturing technology and organization structure was conducted by Woodward. Manufacturing firms were categorized according to production technology:

   - **Small-batch and unit production** firms produce goods in batches of one or a few products designed to customer specification.
   - **Large batch and mass production** is distinguished by standardized production runs.
   - **Continuous process production** is a type of technology involving the
mechanization of the entire work flow and non-stop production.

Different technologies impose different kinds of demands on individuals and organizations which must be met through an appropriate structure. Service technology can be defined as follows:

- **Intangible output:** The output of a service firm is intangible. Services are perishable and cannot be stored in inventory. The service is either consumed or lost forever.
- **Direct contact with customers:** Employees and customers interact directly to provide and purchase service. Production and consumption are simultaneous.

Service firms tend to be flexible, informal, and decentralized; horizontal communication is high, and services are dispersed. Digital technology is characterized by use of the Internet and other digital processes to conduct or support business operations. These firms tend to be flexible and decentralized; horizontal communication and collaboration are high plus involvement in virtual networks. People may use electronic networks to link themselves into teams; centralization is low, and employees are empowered to work in teams to meet fast-changing needs. In the digital work, advantage comes in seeing first and moving fastest, which requires extraordinary openness and flexibility.

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**Lecture Outline**

**Suggested Opening Remarks**

Carlos Ghosn used structural changes to help revive Nissan and restore its competitive position in the auto industry. One of his first steps was to clarify managers’ areas of responsibility and authority and implement mechanisms to ensure accountability. Positions were redesigned so that managers who previously acted as advisors had direct line authority and a clear understanding of how they were expected to contribute to the organization. The compensation and advancement systems were also revised. The major structural change Ghosn made was to create nine cross-functional management teams that would determine a detailed turnaround plan for the organization. Ghosn believed the team approach was the best way to get managers to see beyond the functional and regional boundaries that were hampering collaboration and new product development.

Each team was made up of managers from various functional areas. For example, the purchasing team consisted of members from purchasing, engineering, manufacturing, and finance. Within three months, the teams had created a detailed blueprint for Nissan’s turnaround. Within three years, the implementation of various aspects of the plan had returned Nissan to profitability. The cross-functional teams continue as an integral part of Nissan’s management structure, helping ensure continued horizontal communication and collaboration to help the company compete in the turbulent auto industry.
CHAPTER 10  Designing Adaptive Organizations

1. ORGANIZING THE VERTICAL STRUCTURE

How would you define organizing? Why is it important?

Organizing is the deployment of organizational resources to achieve strategic goals. It is important because it follows from strategy. Strategy defines what to do, and organizing defines how to do it.

The organizing process leads to the creation of organization structure, which defines how tasks are divided, resources are deployed and departments are coordinated.

Organization structure refers to:

- Formal tasks assigned to individuals and departments
- Formal reporting relationships including lines of authority, decision responsibility, number of hierarchical levels and span of managers' control
- Design of systems for coordination across departments

The organization chart is the visual representation of an organization's structure. It delineates the chain of command, indicates departmental tasks and how they fit together, and provides order and logic for the organization.

Every employee has an appointed task, line of authority, and decision responsibility.

There are several important features of the vertical structure:

A. Work Specialization

A fundamental principle is that work can be performed more efficiently if employees are allowed to specialize.

Work specialization, sometimes called division of labor, is the degree to which organizational tasks are subdivided into separate jobs.

Production is efficient because employees perform small, well-defined tasks.

Organizations are moving away from this principle because with too much specialization, employees are isolated and do only a single boring job.

Many companies are enlarging jobs to provide greater challenges or assigning teams to tasks so employees can rotate among the jobs performed by the team.

B. Chain of Command

The chain of command is an unbroken line of authority that links all persons in an organization and shows who reports to whom.

It is associated with two underlying principles:

- Unity of command. Each employee is held accountable to only one supervisor.
- The scalar principle. There is a clearly defined line of authority in the organization that includes all employees.
1. Authority, Responsibility, and Delegation

The chain of command illustrates the authority structure of the organization.

*Authority* is the formal and legitimate right of a manager to make decisions, issue orders, and allocate resources to achieve organizational outcomes.

Authority is distinguished by three characteristics:

- *Authority is vested in organizational positions, not people.* Managers have authority because of the positions they hold.

- *Authority is accepted by subordinates.* Authority flows top down through the organization's hierarchy; subordinates comply because they accept the managers' orders.

  The *acceptance theory of authority* argues that a manager has authority only if subordinates choose to accept the commands.

- *Authority flows down the vertical hierarchy.* Positions at the top have more formal authority than those at the bottom.

*Responsibility* is the duty to perform the task or activity an employee has been assigned; managers are assigned the authority commensurate with responsibility.

*Accountability* is the mechanism through which authority and responsibility are brought into alignment.

Those with authority and responsibility are subject to justifying task outcomes to those above them in the chain of command.

*Delegation* is another concept related to authority; it is the process managers use to transfer authority and responsibility to positions below them in the hierarchy.

Organizations encourage managers to delegate authority to the lowest possible level to gain flexibility to meet customer needs and adapt to the environment.

**Discussion Question #1:** Sandra Holt, manager of Electronics Assembly, asks Hector Cruz, her senior technician, to handle things in the department while Sandra worked on the budget. She needed peace and quiet for at least a week to complete her figures. After ten days, Sandra discovered that Hector had hired a senior secretary, not realizing that Sandra had promised interviews to two other people. Evaluate Sandra’s approach to delegation.

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CHAPTER 10  Designing Adaptive Organizations  •  263

MANAGER’S SHOP TALK

How to Delegate

The attempt to decentralize decision making often gets bogged down because middle managers are unable to delegate. Managers may cling tightly to their decision-making and task responsibilities. Failure to delegate occurs because managers are most comfortable making decisions and feel they will lose status by delegating. They believe they can do a better job themselves or have a risk aversion. Positive delegation is the way for an organization to implement decentralization.

The following can help a manager delegate:

• Delegate the whole task
• Select the right person
• Ensure that authority equals responsibility
• Give thorough instruction
• Maintain feedback
• Evaluate and reward performance

2. Line and Staff Authority

An important distinction is whether managers work in line or staff departments in the organization's structure.

Line departments perform tasks that reflect the organization's primary goal and mission; in a software company, line departments make and sell the product.

Line authority means that managers have formal authority to direct and control immediate subordinates.

Staff departments include all those who provide specialized skills in support of line departments; the finance department of software firm has staff authority.

Staff authority is narrower than line authority and includes the right to advise, recommend, and counsel in the staff specialists' area of expertise.

C. Span of Management

The span of management, or span of control, is the number of employees reporting to a supervisor.

This characteristic of structure determines how closely a supervisor can monitor subordinates.

Tradition has recommended a span of management of seven subordinates.

Today, many lean organizations have spans of management as high as 30, 40, and even higher.

Exhibit 10.2
Factors that determine the span of management include:

- Subordinates' work is stable
- Subordinates perform similar work tasks
- Subordinates are concentrated in a single location
- Subordinates are trained and need little direction
- Rules and procedures define tasks
- Support systems and personnel are available for the manager
- Minimum time is required for nonsupervisory tasks
- Managers' personal preferences favor a large span

The average span of control used in an organization determines whether the structure is tall or flat.

A **tall structure** has an overall narrow span of management and more levels in the hierarchy.

A **flat structure** has a wide span, is horizontally dispersed, and has fewer hierarchical levels.

The trend is toward wider spans of control as a way to facilitate delegation.

Exhibit 10.2 shows how an international metals company was reorganized; the multilevel set of managers was replaced with ten operating managers and nine staff specialists.

D. Centralization and Decentralization

Centralization and decentralization pertain to the hierarchical level at which decisions are made.

**Centralization** means decision authority is located near the top of the organization.

With **decentralization**, decision authority is pushed down the chain of command to lower organization levels.

The trend is toward decentralization, which uses workers' skills, relieves top managers, has well-informed people make decisions, and permit rapid response.

Factors that influence centralization versus decentralization include:

- Greater change and uncertainty in the environment are usually associated with decentralization.
- The amount of centralization or decentralization should fit the firm’s strategy.
- In times of crisis or risk of company failure, authority may be centralized at the top.

**Discussion Question #7:** Carnival Cruise Lines provides pleasure cruises to the masses. Carnival has several ships and works on high volume/low price rather than offering luxury cruises. What would you predict about the organization structure of a Carnival Cruise ship? Discuss.
II. DEPARTMENTALIZATION

Why is departmentalization a fundamental characteristic of organization structure?

Departmentalization is the basis for grouping individuals into departments and departments into the total organization.

Managers make choices about how to use the chain of command to group people together to perform their work.

The following are five approaches to structural design that reflect different uses of the chain of command in departmentalization.

The functional, divisional, and matrix are traditional approaches that rely on chain of command to define departmental groupings and reporting relationships in the hierarchy.

Two contemporary approaches are the use of teams and networks, which have emerged to meet changing organizational needs in a turbulent global environment.

UNLOCKING CREATIVE SOLUTIONS THROUGH TECHNOLOGY

Tightening the Reins at Oracle

Much has been written about the power of the Internet to give employees more information and greater freedom. But Larry Ellison, CEO of Oracle, knows the global network also offers a major opportunity for strengthening top management command and control. By requiring employees to do their work via the Internet, Ellison can carefully track, analyze, and control the behavior of each unit, manager, and employee on a global basis. Oracle got into trouble because sales managers were cutting back-room deals or hammering out private, individualized compensation, agreements with salespeople in different countries. Today, all the terms, including sales contracts and commissions, are dictated from the top and are spelled out in a global database. Ellison loves being in control, but he has solid business reasons for centralizing information and decision-making.

A. Vertical Functional Approach

1. What It Is

*Functional structure* is the grouping of positions into departments based on similar skills, expertise, and resource use.
People and facilities representing a common organizational resource are
grouped together into a single department.

2. How It Works

The major departments under the president are groupings of similar expertise
and resources, such as accounting, human resources, production and
marketing.

Each of the functional departments is concerned with the organization as a
whole; the marketing department is responsible for all sales and marketing.

The functional structure is a strong vertical design; information flows up and
down the vertical hierarchy, and the chain of command converges at the top.

People in a department communicate primarily with others in the same
department to coordinate work and accomplish tasks or implement decisions.

Managers and employees are compatible because of similar training.

There are rules and procedures governing the duties and responsibilities of
each employee.

**Discussion Question #3:** An organizational consultant was heard to say, “Some aspect
of functional structure appears in every organization.” Do you agree? Explain.

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B. Divisional Approach

1. What It Is

   The *divisional structure* occurs when departments are grouped together
   based on organizational outputs.

   Diverse departments are brought together to produce a single
   organizational outputs.

   The divisional structure is sometimes called a *product structure*, or *self-
   contained unit structure*.

   Most large corporations have separate divisions that perform different
   tasks, use different technologies or serve different customers.

   Microsoft has seven product divisions—Windows, server software, mobile
   software, office software videogames, business software, and MSN Internet
   service.

2. How It Works

   Divisions are created as self-contained units with separate functional
departments for each division.

   For example, separate engineering departments are created within each
division, and each department is similar and focuses on a single product.
The primary difference between divisional and functional structures is that the chain of command from each function converges lower in the hierarchy. Differences of opinion would be resolved at the divisional level rather than by the president.

3. Geographic- or Customer-Based Divisions.  

An alternative for assigning divisional responsibility is to group company activities by geographic region.

In this structure, all functions in a specific country or region report to the same division manager.

The structure focuses company activities on local market conditions; competitive advantage comes from the selling a product adapted to a given country.

**Discussion Question #4:** The divisional structure is often considered almost the opposite of a functional structure. Do you agree? Briefly explain the major differences in these two approaches to departmentalization.

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C. Matrix Approach

1. What It Is

The *matrix approach* combines aspects of both functional and divisional structures simultaneously in the same part of the organization.

The matrix has dual lines of authority; the functional hierarchy of authority runs vertically, providing traditional control within functional departments.

The divisional hierarchy runs horizontally; the horizontal structure provides coordination across departments.

The matrix structure, therefore, provides a formal chain of command for both the functional (vertical) and divisional (horizontal) relationships.

2. How It Works

The dual lines of authority make the matrix structure unique.

The success of the matrix structure depends on the abilities of people in key matrix roles.

*Two-boss employees* report to two supervisors simultaneously and must resolve conflicting demands from the matrix bosses.

The *matrix boss* is the product or functional boss who is responsible for one side of the matrix.

The *top leader* oversees both the product and functional chains of command and is responsible for the entire matrix.
General Motors IT implemented a matrix system, and employees have balanced overlapping responsibilities; the firm saved $1 billion over a seven-year period.

**Discussion Question #5:** Some people argue that the matrix structure should be adopted only as a last resort because the dual chains of command can create more problems than they solve. Do you agree or disagree? Why?

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**D. Team Approach**

1. **What It Is**

   The team approach is probably the most widespread trend in departmentalization.

   The vertical chain of command is a powerful means of control, but passing all decisions up the hierarchy takes too long and keeps responsibility at the top.

   Managers can delegate authority, push responsibility to lower levels, and be more flexible and responsive in the competitive global environment.

2. **How It Works**

   There are two ways to think about using teams in organizations:

   *Cross-functional teams* consist of employees from various functional departments, responsible to meet as a team and resolve mutual problems.

   Team members report to their functional departments but also to the team; a frequent use of cross-functional teams is for change projects such as a new product.

   *Permanent teams* are groups of employees brought together as a formal department.

   Emphasis is on horizontal communication and information sharing because representatives from all functions coordinate to complete a specific task.

   Authority is pushed down to lower levels, and front-line employees are given the freedom to make decisions and take action on their own.

   Team members may share or rotate leadership.

   With a *team-based structure*, the entire organization is made up of horizontal teams that coordinate activities and work with customers to accomplish goals.

**Discussion Question #2:** Many experts note that organizations have been making greater use of teams in recent years. What factors might account for this trend?
UNLOCKING CREATIVE SOLUTIONS THROUGH PEOPLE

*Imagination Ltd.*

The essence of teamwork is that people contribute selflessly, putting the good of the whole above their own individual interests. It doesn’t always work that way, but Imagination Ltd. seems to have found the secret ingredient to seamless teamwork. Imagination Ltd. has created a company made up of teams of designers, architects, lighting experts, writers, theater people, and artists. By having employees with a wide range of skills, the company is able to put together a diverse team to provide each client with a new approach to its design problems. The company makes sure that everyone’s work is so closely integrated that people gain understanding and respect for what others do.

E. The Virtual Network Approach

1. What It Is

   The most recent approach to departmentalization extends the idea of horizontal coordination beyond the boundaries of the organization.

   *Outsourcing*, which means farming out certain activities, has become a significant trend.

   Partnerships, and alliances and other collaborative forms are now a leading approach to accomplishing strategic goals (e.g., the music industry).

   Some organizations take this networking approach to the extreme to create a new kind of structure.

   The *virtual network* disaggregates major functions to separate companies that are brokered by a small headquarters organization.

2. How It Works

   Exhibit 10.8

   The organization may be viewed as a central hub surrounded by a network of outsider specialists.

   Services such as accounting are outsourced to separate organizations that are connected electronically to the central office.

   Networked computer systems, collaborative software, and the Internet enable organizations to exchange data and information rapidly to like one company.

   Networks allow a company to concentrate on what it does best and contract out other activities to companies with distinctive competence in those areas.

   Strida has a virtual network approach to design, manufacturing, customer service logistics, account and everything; two people sell thousands of high-tech bicycles.

   In the *modular approach*, a manufacturing firm uses outside suppliers to provide large components of the produce, which are assembled into a product by a few workers.
Discussion Question #6: What is the virtual network approach to structure? Is the use of authority and responsibility different compared with other forms of departmentalization? Explain.

Notes

F. Advantages and Disadvantages of Each Structure

1. Functional Approach

Grouping employees by common task permits efficient resource use and economies of scale.

Departments enhance in-depth skill specialization and development, and centralized decision-making at the top provides unified direction.

The disadvantages reflect the barriers that exist across departments such as poor communication and coordination and slow response to changes.

Innovation and change require involvement of several departments, and decisions pile up at the top of hierarchy, creating delay.

2. Divisional Approach

The organization is flexible and responsive to change because each unit is small and tuned into the environment.

Concern for customer's needs is high and coordination across functional departments is better because employees are grouped and committed to a product.

However, poor coordination exists across divisions; the organization loses efficiency and economies of scale, and there is a lack of technical depth and specialization.

3. Matrix Approach

The matrix can be highly effective in a complex, rapidly changing environment in which flexibility and adaptability are important.

Conflict and frequent meetings allow new issues to be raised and resolved.

The matrix makes efficient use of human resources because specialists can be transferred from one division to another.

The problem is the frustration and confusion from dual chain of command, the high conflict between two sides of matrix, and the time lost in meetings.

Managers spend a great deal of time coordinating meetings, taking time away from core work activities.

4. Team Approach

The team reduces barriers across departments, increases cooperation and compromise, and enable the firm to quickly adapt to requests and changes.

Another advantage is better morale and enthusiasm from employee involvement.
Disadvantages include dual loyalties and conflict, time and resources spent on meetings, and too much decentralization; members lose the firm’s big picture.

5. Virtual Network Approach

The biggest advantages are flexibility and competitiveness on a global scale, drawing on resources and expertise worldwide.

The structure is the leanest of all because little supervision is required; there may only be two or three levels of hierarchy compared with ten or more in traditional firms.

The disadvantage is the lack of hand-on control; each partner in the network acts in its own self-interest.

The weak and ambiguous boundaries create higher uncertainty and greater demands on managers for defining shared goals, coordinating activities, managing relationships, and keeping people focused.

Employee loyalty can weaken; employees feel they can be replaced by contract services.

III. ORGANIZING FOR HORIZONTAL COORDINATION

Why are many companies using teams and networks?

Many companies recognize the limits of traditional vertical organization structures in today’s fast-shifting environment.

There is a growing trend in breaking down barriers between departments, and many companies are moving toward horizontal structures based on work processes.

Every organization needs mechanisms for horizontal integration and coordination.

A. The Need for Coordination

As organizations grow and evolve, new positions and departments are added, and senior managers have to find a way to tie all of these departments together.

Coordination refers to the quality of collaboration across departments; it is required whether there is a function, divisional, or team structure.

Coordination problems are amplified in the global arena, because units differ not only by goals and work activities but by distance, time, culture, and language.

Coordination is the outcome of information and cooperation; managers can design systems and structures to promote horizontal coordination.

As Exhibit 10.10 show, the third stage involves reengineering to structure the organization into teams working on horizontal processes.

The vertical structure is flattened, with perhaps only a few senior executives in traditional support functions such as finance or human resources.

B. Task Forces, Teams, and Project Management

A task force is a temporary team or committee designed to solve a short-term problem involving several departments.
Task force members represent their departments and share information that enables coordination; companies also set up *cross-functional teams* for coordination.

Companies also use *project managers*, responsible for coordinating the activities of several departments on a full-time basis for the completion of a specific project.

The distinctive feature of a project manager is that the person is not a member of one of the departments being coordinated; some are included in the organizational chart.

Project managers need excellent people skills; they use expertise and persuasion to achieve coordination among various departments.

Using project managers has helped American Standard do things faster, better, and cheaper than competitors.

D. Reengineering

*Reengineering* is the radical redesign of business processes to achieve dramatic improvements in cost, quality, service, and speed.

Because the focus of reengineering is on process rather than function, reengineering generally leads to a shift away from a strong vertical structure.

Reengineering changes the way managers think about how work is done in their organizations.

Reengineering emphasizes *process*, an organized group of related tasks and activities that work together to transform inputs into outputs and create value.

Common examples of processes include new product development, order fulfillment, and customer service.

Reengineering can squeeze out the dead space and time lags in work flows, as illustrated by the reengineering of the travel system of the U.S. Dept. of Defense.

About 70 percent of reengineering efforts fail to reach their intended goals; therefore, reengineering is best suited to companies facing competitive threats.

IV. FACTORS SHAPING STRUCTURE

*Why do vertical hierarchies continue to thrive?*

Despite the trend toward horizontal design, vertical hierarchies thrive because they provide important benefits to the organization.

How do managers know whether to design a structure that emphasizes the formal, vertical hierarchy or one which emphasizes horizontal communication?

The answer lies in the contingency factors that influence organization structure.

Research shows that structure depends on a variety of *contingencies*; the right structure is “designed to fit” the contingency factors of strategy, environment, and technology.

These three areas are changing for organizations, creating a need for stronger horizontal coordination.
A. Structure Follows Strategy

Two strategies proposed by Porter are differentiation and cost leadership; these strategies require different structural approaches.

A simplified continuum illustrates how structural approaches are associated with strategic goals.

The pure functional structure is appropriate for achieving internal efficiency goals; the vertical functional structure uses task specialization and a chain of command.

It does not enable the organization to be flexible or innovative.

Horizontal teams are appropriate when the primary goal is innovation and flexibility; the firm can differentiate itself and respond quickly to change.

Other forms of structure represent intermediate steps on the firm’s path to efficiency or innovation.

The functional structure with cross-functional teams and project teams provides greater coordination and flexibility than the pure functional structure.

The divisional structure promotes differentiation because each division can focus on specific products and customers.

Discussion Question #8: The chapter suggested that structure should be designed to fit strategy. Some theorists argue that strategy should be designed to fit the organization’s structure. With which theory do you agree? Explain.

Notes

B. Structure Reflects the Environment

Environmental uncertainty means that decision makers have difficulty acquiring good information and predicting external changes.

An uncertain environment causes:

- Increased differences occur among departments
- The organization needs increased coordination to keep departments working together
- The organization must adapt to change.

The terms mechanistic and organistic explain structural responses to the external environment.

When the environment is stable, the organization uses a mechanistic system; it has a rigid, vertical, centralized structure with decisions made at the top.

In rapidly changing environments, the organization tends to be much looser, free-flowing, and adaptive, using an organic system.

The structure is more horizontal and decision-making authority is decentralized.
The contingency relation between environmental uncertainty and structural approach is illustrated in Exhibit 10.15.

Researchers have studied the ability to glide from a rigid structure to a loosely structure one, not only on aircraft carries like the USS Dwight Eisenhower.

The hierarchical side keeps discipline, but during times of complexity, it is effective to loosen the lines of command.

**Discussion Question #9:** Discuss why an organization in an uncertain environment requires more horizontal relationships than one in a certain environment.

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**C. Structure Fits the Technology**

Technology includes the knowledge, tools, techniques and activities used to transform organizational inputs into outputs.

Technologies vary between manufacturing and service organizations; in addition, new digital technology has an impact on structure.

1. Woodward’s Manufacturing Technology

The most influential research into the relationship between manufacturing technology and organization structure was conducted by Woodward.

Manufacturing firms were categorized according to production technology:

- *Small-batch and unit production* firms produce goods in batches of one or a few products designed to customer specification.

- *Large batch and mass production* is distinguished by standardized production runs

- *Continuous process production* Is a type of technology involving the mechanization of the entire work flow and non-stop production.

The difference among the three manufacturing technologies is called *technical complexity*, the degree to which complex machinery is involved to the exclusion of people.

Different technologies impose different kinds of demands on individuals and organizations which must be met through an appropriate structure.

2. Service Technology

More people have been involved in service organizations than in manufacturing in North America---law firms, airlines, hotels, advertising.

*Service technology* can be defined as follows:
• **Intangible output:** The output of a service firm is intangible. Services are perishable and cannot be stored in inventory. The service is either consumed or lost forever.

• **Direct contact with customers:** Employees and customers interact directly to provide and purchase service. Production and consumption are simultaneous.

Service firms tend to be flexible, informal, and decentralized; horizontal communication is high, and services are dispersed.

**Discussion Question #10:** What is the difference between manufacturing and service technology? How would you classify a university, a local discount store, a nursery school? How would you expect the structure of a service organization to differ from that of a manufacturing organization?

**Notes**

3. **Digital Technology**

*Digital technology* is characterized by use of the Internet and other digital processes to conduct or support business operations.

Amazon.com, which sells books and other products over the Internet, is an example of a firm based in digital technology.

These firms tend to be flexible and decentralized; horizontal communication and collaboration are high plus involvement in virtual networks.

People may use electronic networks to link themselves into teams; centralization is low, and employees are empowered to work in teams to meet fast-changing needs.

In the digital work, advantage comes in seeing first and moving fastest, which requires extraordinary openness and flexibility.

**Discussion Question #11:** What impact does the growing use of digital technology have on organizational structure. Would you expect the structure of an Internet-based organization such as eBay, which operates almost entirely online, to be different from a bricks-and-mortar company such as General Electric that uses the Internet for business-to-business transactions with vendors? Why or why not?

**Notes**
Lecture Example File

Students are encouraged to research the distinction between centralized and decentralized management operations.

THE TRADE-OFFS OF DECENTRALIZATION

Executives are faced with tough decisions every day. Business decisions can determine the success of entire ventures. But organizational decisions are even more far reaching. They determine the ability of a corporation to succeed at every venture it undertakes, forevermore.

One of the most fundamental organizational decisions centers on the question of decentralization. Should a corporation comprise a number of relatively independent business units, each including most of the functions it needs to operate? Or should a corporation centralize the various service functions, betting on teamwork and cooperation to gain corporate synergies?

Leaders have a responsibility to make decisions thoughtfully. Such critical decisions must not be left to the variety of opinions and political interplay. Too many careers and too much money are at stake. Effective leaders study the fundamentals of organizational design before making such significant choices.

Leaders should do whatever it takes to maximize the long-term health of the corporation. Quick fixes don't work, and a series of knee-jerk reactions to the issues of the day is unprofitable. Furthermore, subjecting people to a never-ending stream of organizational experiments is cruel. Effective leaders build a vision of the ideal, and implement it methodically, taking whatever time is needed to get things right.

Many people believe that decentralization will improve the responsiveness and value of a staff function. On the other hand, decentralization has often led to disappointments: less innovation, fragmented work, ruined career paths, and lower quality. And costs rise, sometimes by as much as 50 percent.

Some organizations have experienced a painful and expensive "pendulum swing" between centralization and decentralization. Part of the reason for this is the structure of the organization.

If Consultancy and Technologists jobs are combined, both may be decentralized in order to become more responsive to the unique mission-critical needs of the clients -- that is, to do a better job of Consultancy. In doing so, they lose control of architecture and the ability to specialize as Technologists.

Pressures then build for recentralization of the Technologist function that should never have been fragmented, and with the next reorganization the company centralizes both that which should be central (Technologists) and that which perhaps should remain decentralized (Consultancy). The result is pendulum-like structural change -- alternately centralizing and decentralizing a function. Each reorganization is a backlash to the other, demonstrating that neither the extremes nor the middle work.
The pendulum swing occurs when organizational changes lack resolution -- that is, when decentralization or recentralization is applied across the board to a range of structural building blocks, rather than adjusting the degree of decentralization for each function independently. In the above example, the cycle can be broken by separating the Consultancy and Technologist functions and adjusting the degree of decentralization separately for each.

To analyze the trade-offs, a precise definition of "decentralization" is necessary. Decentralization does not refer to geographic dispersion. People can be placed anywhere in the world, and yet still report to a central organization. Specifically, decentralization means two things: substructuring a function by client (rather than by skill or product, for example); and moving lines of reporting to clients (rather than a single company wide functional executive.)

Decentralization is a costly way to treat organizational problems. A better answer is to address the root cause of the problems by building a healthy central organization. In fact, most of the pressures for decentralization disappear if the organization has an effective Consultancy, a healthy internal economy that gives clients control over priorities, a customer-focused culture, and effective entrepreneurs that take advantage of consolidation and specialize as much as possible to better serve customers.

Answers To End-Of-Chapter Discussion Questions

1. Carnival Cruise Lines provides pleasure cruises to the masses. Carnival has several ships and works on high volume/low price rather than offering luxury cruises. What would you predict about the organization structure of a Carnival Cruise ship?

   One would expect the organization structure of a Carnival Cruise ship to be mechanistic. Formalization and division of labor will be high, and decision making will be centralized.

2. Why is structure different depending on whether a firm’s strategy is low cost or differentiation?

   These strategies have different objectives. The low-cost strategy must strive for internal efficiency, while the differentiation strategy attempts to develop innovative products unique to the market. The functional structure is more appropriate for achieving internal efficiency goals because it uses specialization, a strict chain of command, and tight controls. A company with a low-cost strategy will be better served with this functional strategy. The divisional structure promotes differentiation because each division can focus on specific products and customers. This structure is more appropriate for a firm with a differentiation strategy.

3. The chapter suggested that structure should be designed to fit strategy. Some theorists argue that strategy should be designed to fit the organization’s structure. With which theory do you agree? Explain
This question is designed to stimulate student discussion, and, therefore, there is no one correct answer. If the company is an already existing company, the argument for adapting strategy to structure is stronger. If the company is new, the argument for adapting structure to strategy is stronger. This question is similar to the old question, “Which came first, the chicken or the egg?” The major point to understand is that structure and strategy must be compatible, regardless of which comes first.

4. Explain the three levels of departmental interdependence and give an example of each.

The first type of departmental interdependence is pooled interdependence. In this type of arrangement each department is part of the organization and contributes to the common good, but each department is relatively independent because work does not flow between units. An example of this type of interdependence is Wal-Mart stores. Each store contributes to the funds used to advertise for the company by sharing financial and other resources, but work does not begin in one store and flow to the next.

Sequential interdependence means that parts of outputs of one department become inputs to another department in serial fashion. This type of interdependence is represented by your local television station with a network affiliation. The programs produced by the network are fed to the local affiliates, which then become the service provided by the affiliates.

Reciprocal interdependence means that the output of operation A is the input to operation B, and the output of operation B is the input back again to operation A. An illustration for this type of relationship is more difficult to provide, but students see one illustration while going to school. The output of the professor (lectures) becomes the input for the student (notes). The notes that the students take and study then become the output back to the professor as answers to questions or tests. This in turn is the input to the professor as grades for the student.

5. Some experts argue that interdependence within organizations is greater now than 15 years ago because of rapid changes in the global environment. If so, what does this mean for the present structure of organizations compared with 15 years ago?

It means that organizations today will require more coordination and standardization. More standardized procedures, rules, and regulations would be expected. One would also expect more teams, task forces, unscheduled meetings, and integrated managers to ensure coordination.

6. Some people argue that the matrix structure should be adopted only as a last resort because the dual chains of command can create more problems than they solve. Do you agree or disagree? Why?

This question is to stimulate student thinking and discussion, and there is no single correct answer. Many experts would agree that the matrix structure should be
adopted only after other structures have been tried. If the organization is in a functional structure and that doesn’t work, and then reorganized into a divisional structure and that doesn’t work either, a matrix structure may be appropriate. The matrix structure requires extensive training to help people understand the dual hierarchies, and it may take one or two years to complete the implementation. Often, after the matrix structure has been implemented, it evolves back into either a functional or divisional structure if one side of the matrix becomes more powerful than the other. Dual chains of command create more problems than they solve if the matrix structure is not suited to the situation. The situation must demand equality along the two lines of authority, the sharing of functional resources across divisions, and a rapid response to a changing environment. Recent thinking on organization structure suggests that the matrix is appropriate in only a few situations. Most organizations can get by with other forms, such as a functional structure with lateral relationships, to meet the needs for coordination.

7. What is the network approach to structure? Is the use of authority and responsibility different compared with other forms of departmentalization? Explain.

In the network approach the organization becomes a small central broker, electronically connected to other organizations that perform vital functions. Each department is an independent contracting service to the broker for a profit and can be located anywhere. The central broker, or headquarters, has only contractual arrangements with the departments and, therefore, very little authority. Total responsibility for the component of the product or service is given to each department, and each has complete authority over its own operation. The major difference is that the headquarters has very little control over the departments and cannot exercise authority over them very well.

8. Why are divisional structures frequently used in large corporations? Does it make sense for a huge corporation such as American Airlines to stay in a functional structure?

The divisional structure involves some duplication of resources because the organization has multiple manufacturing, marketing, and engineering departments—one in each division. Large organizations have sufficient resources to populate several divisions. Indeed, each division itself is large enough to achieve economies of scale. General Motors, for example, easily has enough resources for separate manufacturing, marketing, and design departments in each automobile division. Huge organizations like GM would be very difficult to manage within a functional structure. There would literally be thousands of engineers in the engineering department and perhaps tens of thousands of people in the manufacturing department. The divisional structure, characterized by self-contained divisions, allows the organization to be more easily controlled.

American Airlines is in the type of industry where a functional structure still makes sense. Its facilities are spread out to far-flung locations, which would make the formulation of divisions impractical. A division at each location would be so small as to lose all economies of scale. Another factor is the nature of the offering by
American Airlines. The offering is basically a service which needs to be standardized in all its locations. The competitiveness of the airlines industry, due to deregulation, makes it essential that every airline become as efficient as possible. The duplication of resources of the divisional structure would lessen this efficiency.

9. *An international matrix structure tends to be organized by product divisions and geographic regions. Why would these two chains of command be used rather than product and function as in domestic companies? Explain.*

The international matrix structure is generally organized by product division and geographic region because coordination needs are greatest for geography and product lines in international business. The combination of product and geographic structure allows close coordination of activities and flexibility in reacting to changing marketing, political, or economic conditions. This can be especially crucial when companies locate in foreign countries. Localized decision making frees top executives, who may be some distance from the situation, to concentrate on overall strategy, and allows quick response to external changes which would be difficult under the centralized functional structure.

**Teaching Note for Experiential Exercise**

**Loose versus Tight Organization Structure**

Ample research exists which supports the idea that giving control to employees or groups of employees can help increase worker motivation and satisfaction. Having too much control from the top is often stifling to workers. In addition, such a structure does not adapt well to changes in the business environment.

Put students into groups according to the type of person they interviewed. Group would be clerical and secretarial, faculty, administrative, other professional, other labor (maintenance or delivery), etc. Have each group look for similarities and differences in their answers. What level of routine, autonomy, set procedures and rigidity is there in each group. Then have the groups present their findings and write a chart on the board as shown below:

<table>
<thead>
<tr>
<th>Job Category</th>
<th>Level of Routine</th>
<th>Autonomy</th>
<th>Set Procedures</th>
<th>Rigidity</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secretary, clerical</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Maintenance</td>
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<td></td>
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<tr>
<td>Faculty</td>
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<td></td>
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<tr>
<td>Administrative</td>
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<tr>
<td>Other professional</td>
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<td></td>
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<tr>
<td>Other labor</td>
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</tr>
</tbody>
</table>

Look for commonalities among all groups and then among levels. How does a faculty member’s autonomy compare with a secretary’s? Finally, ask the students how they would go about making any of these jobs less routine, more autonomous, less rigid, and so on. Make sure they give specific changes, such as “allow the secretary to schedule her own break and lunch times.” rather than general suggestions, such as, “give her more freedom.”

**Teaching Note for Ethical Dilemma**

**Caught in the Middle**

Tom Harrington is in a tough position. He feels loyalty to his boss, but he is also concerned about product safety as well as the company’s reputation. Option 2 would clearly be unethical—Harrington is aware of the safety guidelines, which have been devised to ensure the safety of children, so he cannot just “look the other way.” Unfortunately, Option 1—summarizing the guidelines for Golopolus and recommending implementation—would probably have no effect. Golopolus is already aware of the guidelines and hasn’t done anything about them yet. The Operations Manager is ultimately responsible for whether Rockingham’s toys meet federal guidelines and he or she needs to be aware of what those guidelines are. By sending the reports to the Operations Manager anonymously, Harrington does not have to criticize his boss or accuse him of wrongdoing; but he is making sure that higher level managers are aware of the new safety standards. Tom is right that he does not have the authority to monitor the federal regulations, but the Operations Manager does have that authority.

**Surf the Net**

1. **Examples of Organizational Structure.** Corporate Profile: Organizational Structure Overview of Microsoft Corporation.
In March 1999, Microsoft reinvented its core structure updating its vision and its fundamental approach to business to better meet customer needs in the new Internet era. The company's organizational structure will continue to change in the coming months as various groups align themselves in response to Microsoft's new direction. This page will be updated as further details become available. Microsoft is divided into the following main groups:

- Business and Enterprise
- Consumer Windows
- Business Productivity
- Developer
- Consumer and Commerce
- Operations
- Sales and Support
- Microsoft Research

2. Production Technology. Student responses will vary as to their insight and observation of each of the two Web sites pertaining to Nissans automobiles.

Case for Critical Analysis Solution

Malard Manufacturing Company

1. What is the balance between vertical and lateral structure in Malard Manufacturing? Is it appropriate that department managers always turn to the executive vice-president for help rather than to one another?

The balance between vertical and lateral structure is skewed too much in favor of the vertical structure. The executive vice-president wants to maintain control over all decision making, and this is slowing down the development of new products. People are forced to work sequentially rather than get together face-to-face and solve problems simultaneously. Mr. Crandell should be willing to delegate responsibility to departmental managers and let them work out problems among themselves. Another approach would be to install a product manager or a task force to solve the CV305 problems. It is not appropriate in this case for managers always to turn to the executive vice-president for approval.

2. If you were Mr. Crandell, how would you resolve this problem? What could you do to facilitate production of the CV305 over the next 30 days?

Fast action is clearly needed. Two responses would be appropriate. One would be to select a single individual as project manager for the CV305 and to create a team of people who would have responsibility for solving all remaining problems. The project manager would have as a part of the team one or two managers from each department that must contribute to completion of the product development. The second option would be to create a task force. This would be a temporary team created to solve this problem in as short a time as possible. If Mr. Crandell is willing to let go of the decision responsibility for the CV305, the problems can be solved in
a relatively short time and the product delivered to customers. An increase in lateral structure is just what is needed to solve this problem.

3. What structural changes would you recommend to prevent these problems in future new-product developments? Would a smaller span of control help? An integrating manager with responsibility for coordinating the CV305? A task force?

The solution to new-product development will be to develop a permanent lateral relationship. A new-product manager could be appointed with responsibility for coordinating all new products, or a series of task forces could be used, with a task force assigned to each new-product development the organization undertakes. This would mean decentralization of decision making and a faster response to environmental changes. All departments involved in new-product development could work on their activities simultaneously and coordinate their activities through the team or task force. A smaller span of control will not help much unless Mr. Crandell is willing to decentralize decision making to the lower levels and encourage people within the departments to get together and work out their joint problems. A formal task force or an integrating manager would be the best way to implement this decentralization.