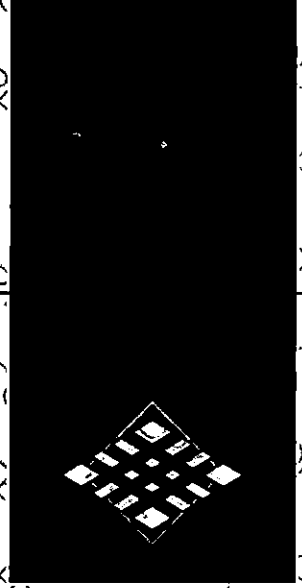

Organization Theory and Design

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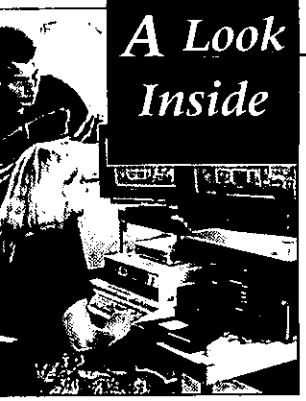
CHAPTER

1

Organizations and Organization Theory

CHAPTER TOPICS



A Look Inside

International Business Machines Corporation

Owning stock in IBM was like owning a gold mine. The overwhelming success of the IBM PC sent the company's already high profits soaring, and IBM was ranked as the world's largest company in terms of stock market value. Big Blue, as the company was known, was creating jobs around the world, its work force ultimately swelling to 407,000.

A decade later, those who had invested their lives—or their money—in a company they thought could never fail watched long-cherished dreams go down the drain. The company went from earning a $6 billion profit to reporting a whopping $5 billion loss two years later. IBM stock lost more than $75 billion in value, an amount equal to the gross domestic product of Sweden. Everyone associated with the once-great company suffered.

- More than 140,000 IBM workers lost their jobs. Entire towns that sprang up because of IBM watched their economies disappear. New York's middle Hudson Valley was devastated, and when IBM announced layoffs in 1993, local officials requested that gun shops close for the day.
- As IBM stock fell from $176 to the low $40s, so did the retirement hopes of hundreds of thousands of investors, from IBM executives to the small-town grandmother who thought she'd made the safest investment in the world.
- By the time IBM gave up its no-layoffs policy, damaged employee morale was reinforced by former employees who sold T-shirts with the IBM logo spelling out "I've Been Mislead."
- After a long career of rising to the top of one of the world's greatest companies, the chairman of IBM, John Akers, resigned under heavy pressure, taking other top executives with him. But more than careers were tarnished that day. On the same day, the company shook up the financial world by announcing that for the first time in history, it was slashing its quarterly dividend from $1.21 to $.54 a share.

The fall of IBM, the giant of the computer industry for eighty years, is a classic story of organizational failure. The company went from literally being at the top of the world to fighting for its life. How did it happen?

Background

IBM grew out of a conglomerate formed in 1911 that primarily made scales, coffee grinders, cheese slicers, and time clocks. The so-called "Computer-Tabulating-Recording" component of the conglomerate grew quickly, and the name change to International Business Machines Corporation in 1924 signaled a significant shift in focus.

For fifty-seven years, until 1971, IBM was led by the Thomas Watsons (senior and junior). The leaders who followed them were not as forceful or visionary as the Watsons, but they inherited a strong company that clearly dominated the computer market. In the mid-1960s, IBM introduced the System/360 family of mainframe computers—six models launched simultaneously, requiring five new factories and creating thousands of new jobs. An outstanding success, the 360 sealed IBM's leadership in the computer industry. Some think it may have marked another turning point as well.

"Bureaucracy Run Amok"

Retired IBM executive Malcolm Robinson, who rose to a senior post in IBM Europe, said, "The scale of the [System/360 project] created a complexity in the business that almost couldn't be handled. It was chaos for awhile. So an organization had to be created to

bring things under control and make sure that kind of breakdown never happened again. And that really may have been what made the bureaucracy take off."[1] Statistics indicate that Robinson was right. IBM's personnel count went up almost 130 percent between 1963 and 1966, while sales rose about 97 percent.

Many mistakes made by IBM executives were caused by too many people and too many meetings. Decisions that should have been made quickly in response to changes in the computer market were delayed or ignored because of the cumbersome management system that demanded everything be done "the IBM way." For one thing, the IBM way demanded consensus through meetings, so anytime a participating staff member "non-concurred," in the jargon of the company, decisions were referred to another meeting. IBM choked on the bureaucratic culture. When IBM's new chairman took over after the resignation of John Akers, he said of the troubled company he would try to revive, "It was bureaucracy run amok."

The IBM culture led to such things as the ridiculous—but relatively harmless—file of IBM-approved jokes for executives to tell at luncheons or other speaking engagements. But it also led to disaster.

"The Times They Are A-Changin'"

Around the time IBM introduced its 360 line of computers in the mid-1960s, folk singer Bob Dylan's song "The Times They Are A-Changin'" was released. Unfortunately, IBM didn't change with the times. The company staked its claim in the world of multimillion-dollar mainframes. It was late getting into the personal computer market, choosing to steer what company leaders in the 1970s thought was a safe course—preserving the company's mainframe profits.

By the time IBM decided to enter the personal computer game in earnest, the death knell was already starting to toll on the profits from mainframes. The values that guided IBM and its mainframe leadership—the caution, the obsessive training of employees, a focus on following rather than anticipating customer needs, and a guarantee of lifetime employment to its workers—didn't work when IBM moved into the fast-paced, ever-changing, competitive world of personal computers.

It's Not What They Did; It's What They Didn't Do

The IBM PC was an instant success for IBM. But it's what the company *didn't* do, both before and after the introduction of the PC, that ultimately caused its downfall.

The first big mistake IBM made was in not taking advantage of a new technology the company itself invented in the mid-1970s. The reduced instruction-set computing (RISC) microprocessor offered simplified, faster computing, well-suited to the minicomputers that were gaining popularity. But the new technology threatened the huge profits from the company's mainframe business. The decision to develop smaller, less expensive machines with new technology kept getting delayed until the competition stepped way ahead of IBM at its own game.

At least as damaging to IBM's future was its subsequent failure to grab a larger share of PC profits when it finally had the opportunity. The company signed on with Microsoft for the PC's software and Intel for the microprocessor. IBM might, at the time, have purchased all or part of both of these companies, allowing Big Blue to cash in on the huge profits that are now accruing to the two smaller firms.

Bill Gates, chairman of Microsoft, had actually encouraged IBM to buy outright the MS-DOS operating system he found for it in 1980. When IBM declined—an executive said

the company didn't want to get bogged down in the software—Microsoft bought the system for a mere $75,000. That move helped the small company grow to the point of making $700 million in profits in 1992. In the same year, Intel reported earnings of $1.1 billion, and the combined market value of Microsoft and Intel outpaced IBM by over $15 million.

IBM's bureaucratic culture again got in the way. When IBM and Microsoft worked to co-develop a new operating system for a new line of PCs, IBM assigned such a large number of people to the project that they had to spend as much time communicating with one another as they did working toward a new system.

In addition, IBM's way of measuring productivity—by the number of lines of code someone wrote—encouraged its programmers to write inefficient operating code. As IBM's horde of programmers labored away, one member of Microsoft's small team rewrote a piece of IBM operating code requiring 33,000 characters by using just 200 characters. The team then began rewriting other parts of IBM's cumbersome code, making it smaller and thus faster. Rather than recognizing the benefits of the changes, IBM managers complained that Microsoft was performing "negative" work by condensing the lines of code and, therefore, that Microsoft should be paying IBM rather than the other way around.

Soon afterward, IBM passed up another opportunity. Believing it would be beneficial to his own company as well as to IBM, Microsoft's chairman suggested that the larger company purchase around 10 percent of Microsoft. Again, IBM declined—a very expensive mistake. If IBM had bought 10 percent of Microsoft then, the company would today have turned a $100 million investment into $3 billion.

Another thing IBM didn't do quickly was accept that its no-layoffs policy was simply no longer working in the fast-paced world in which the company was operating. As one former manager put it, the policy was defended "like virginity." Rather than admitting the organization needed to be streamlined and the work force cut, IBM began several years of "reorganizing"—eliminating positions here, firing employees there for the slightest infractions of the rules. The company gradually increased the pressure for workers to accept severance offers. All the time, IBM's then-Chairman John Akers kept insisting that no one was being laid off. Though some championed Akers's efforts to maintain this distinctive piece of IBM's culture, employee morale and company image were severely damaged by these word games by the time IBM finally gave up its sacred no-layoffs policy.

IBM Today

In January 1993, John Akers finally announced that he was stepping down as chairman of IBM, a move that many thought was long overdue. Though Akers wasn't responsible for the problems at IBM, he failed to solve them. The media attention surrounding the announcement of his resignation tarnished IBM's image even further.

One of the tasks ahead for IBM's new CEO, Louis V. Gerstner, Jr., is to shine up that image and somehow emphasize the IBM brand name as the primary computer resource for consumers. Though IBM still has a good name, Gerstner doesn't have an easy job ahead of remaking IBM culturally as well as technologically. He plans to create a culture in which IBM people will waste fewer opportunities, minimize bureaucracy, and put the good of the company ahead of their divisions.

Technologically, IBM will focus its energies on the Power system, a set of superfast microprocessors that can be used in anything from hand-held computers to large supercomputers. The system represents the first time since the System/360 mainframe line in the 1960s that IBM has focused its energy and risked its future on a single technology. The PowerPC chip helped IBM come out with its most successful laptop, the ThinkPad.

Can IBM rebound from its many mistakes and once again be a leader in the computer industry? Or was it too far gone to ever come back? Watching the answer unfold will be one of the top organizational stories of the next decade.[2]

Welcome to the real world of organization theory. The rise and fall of IBM illustrates organization theory in action. IBM managers were deeply involved in organization theory each day of their working lives—but they never realized it. Company managers didn't fully understand how the organization related to the environment or how it should function internally. Familiarity with organization theory would have enabled IBM's managers to understand their situation and to analyze and diagnose what was happening to them. Organization theory gives us the tools to explain what happened to IBM. Organization theory also helps us understand what may happen in the future, so we can manage our organizations more effectively.

Organization Theory in Action

TOPICS

Each of the topics to be covered in this book is illustrated in the IBM case. Consider, for example, IBM's failure to respond to or control such elements as customers, suppliers, and competitors in the fast-paced external environment; its inability to coordinate departments and design control systems that promoted efficiency; slow decision making, such as delaying action on exploiting the potential of new technology; handling the problem of large size; the absence of a forceful top management team that allowed IBM to drift further and further into chaos; and an outmoded corporate culture that strangled efforts to renew or revitalize the company. These are the subjects with which organization theory is concerned.

Of course, organization theory is not limited to IBM. Every organization, every manager in every organization, is involved in organization theory. Two other organizations that were giants along with IBM in the 1960s—General Motors and Sears Roebuck—also fell from greatness primarily because their leaders didn't analyze and respond to what was happening both outside and inside their companies.[3]

There are success stories, too. Hewlett-Packard Company—which was beginning to suffer from some of the same "big company" problems as IBM in the 1980s—went through a major, highly successful reorganization in 1990, using concepts based in organization theory. By mid-1993, HP was one of the fastest growing PC companies around.[4] Interestingly, Hewlett-Packard was one of the two companies to first pick up on the RISC technology IBM ignored for so long. Ford Motor Company, John Deere, Timex, and AT&T have undergone similar successful structural transformations.

Organization theory draws lessons from these organizations and makes those lessons available to students and managers of organizations. The story of IBM is important because it demonstrates that large organizations are vulnerable, that lessons are not learned automatically, and that organizations are only as strong as their decision makers.

CURRENT ISSUES

Research into hundreds of organizations provides the organizational knowledge base to make IBM and other organizations more effective. For example, issues facing organizations in the 1990s are different from those of the 1960s and 1970s. Some of the issues IBM and other organizations must confront today are:

1. Global Competition Every company, large and small, faces international competition on their home turf at the same time they confront the need to be competitive in international markets. IBM was always fairly successful in selling computers internationally, but the company's concern about Japanese computer companies may have contributed to its failure to respond to domestic competitors. After Westinghouse sold its lamp operations to a Holland-based company, rival General Electric quickly saw the need to get into the international market; by 1993, approximately 40 percent of GE Lighting's sales came from abroad.[5] But while U.S. investment abroad rose 35 percent from 1987 to 1992, foreign investment in the United States more than doubled.[6] People who work for Burger King, Standard Oil, Pillsbury, Shell Oil, or CBS Records are already working for foreign bosses.

2. Organization Design As IBM learned, bigger doesn't always mean better. In the 1990s, smaller means better in many industries, and downsizing and decline are considered as natural and important as growth.[7] One of the hottest trends is often called "reengineering," a radical redesign of business processes that leads to big results—and usually big layoffs.[8] Managers need lean, adaptive organizations, often subdividing a large firm into a series of small, freestanding divisions.

Structures are flatter, with middle management being eliminated. Organization designs today are structured around teams of employees that become primary work units and are empowered to make decisions. General Electric's factory in Bayamón, Puerto Rico, has one manager, fifteen salaried "advisers" and 172 hourly workers. Hourly workers are organized into teams of ten or so; they change jobs every six months so that each worker knows his or her own job as well as how it affects the next person. There are no supervisors; "advisers" speak up only when teams ask for help.[9]

3. Empowering Employees As organization design changes, so do the ways of motivating employees. Organization members in many enlightened organizations are considered partners or associates, not employees. Organization leaders are rejecting the by-the-numbers approach to management, recognizing that an increasingly important part of their job is showing others they really care.[10] When Union Carbide went through a total restructuring, top management set the guidelines for new processes, but they wisely allowed the details of how to work within those processes to come from workers on the floor of the pilot plant in Taft, Louisiana. Those employees found savings for the company of more than $20 million.[11]

Some 10 percent of U.S. employees are now covered by employee stock ownership plans (ESOPs) that empower employees to share in the company's success. Other human resource innovations include Merck's encouragement of employees to change careers within the company, Pepsico's letting employees move laterally across divisions, and Taco Bell's rotation of store employees through all the jobs, from making tacos to greeting customers.[12] Symmetrix, a consulting firm in Lexington, Massachusetts, offers stress-reduction classes to its employees.[13]

4. Speed The 1980s saw dramatic increases in product and service quality by U.S. and Canadian companies. Although quality will still be important, the distinguishing competitive issue in the 1990s will be how fast products and services can be delivered to customers. The Limited can have ten thousand dresses reflecting a new fashion into stores within forty-one days, long before the original runway fashion is sold. 3M's giant electronics operation in Austin, Texas, reduced its product development time from two years to about two months. Ford middle managers reduced the time required for commercial credit approval from one month to one week, then tackled the problem again and reduced it to one day. Customers want things fast, and organizations must be designed to encourage quick collaboration and instant response, all the time keeping quality high.[14] In his efforts to turn IBM around, one of Lou Gerstner's top priorities is getting products to market faster than competitors.[15]

5. Communication Technology Today, employees can be linked up with everyone else through the use of personal computers and networks. Indeed, vendors and customers can be brought into the loop for instant communication. Technology facilitates communication and group formation in whatever way is needed to accomplish tasks or projects. Technology dramatically flattens organization structures, so that there may be hundreds of far-flung sites, such as stores or offices, all transmitting information to a single headquarters.[16] Publisher McGraw Hill maintains worldwide circulation files for sixteen of its magazines from an office in Ireland, where employees work at computer terminals linked to the company's mainframes in Highstown, New Jersey.[17] New communications technology also empowers employees, giving them access to complete information, which enables them to get the job done in less time than if they had to solicit information from superiors or colleagues.

PURPOSE OF THIS CHAPTER

The purpose of this chapter is to explore the nature of organizations and organization theory today. Organization theory has developed from the systematic study of organizations by scholars. Concepts are obtained from living, ongoing organizations. Organization theory can be very practical, as illustrated in the IBM case. It helps people understand, diagnose, and respond to emerging organizational needs and problems.

The next section begins with a formal definition of organization and then explores introductory concepts for describing and analyzing organizations. Next, the scope and nature of organization theory are discussed more fully. Succeeding sections consider what organization theory can and cannot do, its usefulness, and how organization theory models can help people manage complex organizations. The chapter closes with a brief overview of the important themes to be covered in this book.

What Is an Organization?

Organizations are hard to see. We see outcroppings, such as a tall building or a computer workstation or a friendly employee; but the whole organization is vague and abstract, and may be scattered among several locations. We know organizations are

there because they touch us every day. Indeed, they are so common we take them for granted. We hardly notice that we are born in a hospital, have our birth records registered in a government agency, are educated in schools and universities, are raised on food produced on corporate farms, are treated by doctors engaged in a joint practice, buy a house built by a construction company and sold by a real estate agency, borrow money from a bank, turn to police and fire departments when trouble erupts, use moving companies to change residences, receive an array of benefits from government agencies, spend forty hours a week working in an organization, and are even laid to rest by an undertaker.[18]

DEFINITION

Organizations as diverse as a church, a local hospital, and the International Business Machines Corporation have characteristics in common. The definition used in this book to describe organizations is as follows: **organizations** are social entities that are goal-directed, deliberately structured activity systems with a permeable boundary.[19] There are four key elements in this definition.

1. *Social Entities* Organizations are composed of people and groups of people. The building blocks of an organization are people and their roles. People interact with each other to perform essential functions in organizations. Recent trends in management indicate the importance of human resources, with most new management approaches designed to empower employees with greater opportunities to contribute. The importance of human resources will be discussed throughout this book.
2. *Goal-Directed* Organizations exist for a purpose. An organization and its members are trying to achieve an end or mission. Participants may have goals different from those of the organization, and the organization may have several goals; but organizations exist for one or more purposes without which they would cease to exist. The notion of organizational strategy and goals will be discussed in Chapter 2.
3. *Deliberately Structured Activity Systems* An activity system simply means that organizations perform work activities. Organizational tasks are deliberately subdivided into separate departments and sets of activities. Subdivision achieves efficiencies in the work process. The deliberate structure is used to coordinate and direct separate groups and departments. The structuring of organizations will be discussed in Chapters 4 through 7.
4. *Permeable Boundary* All organizations have boundaries that separate them from other organizations. Membership is distinct. The boundary determines who and what is inside or outside the organization. But in today's rapidly changing world, the boundaries of competitive organizations are becoming permeable rather than rigid as organizations share information and technology to their mutual advantage. IBM joined with both Motorola and Apple in bringing the new PowerPC chip to the market in the fall of 1993.[20] One reason boundaries are becoming more permeable is the emphasis on speed. Consider, for example, the linkage between Wal-Mart and Procter and Gamble's order-fulfillment processes. A box of washing detergent rung up on a Wal-Mart cash register is at the same time registered in Procter and Gamble's warehouse, enabling P&G to know how many boxes need to be replenished on Wal-Mart's shelves.[21] Jack Welch, CEO of General Electric, wants to eliminate boundaries among GE's many divisions.[22]

IMPORTANCE

Organizations are not just all around us; they are the prominent social institution of our time. Charles Perrow proposed that organizations are the key phenomenon in existence today.[23] Most people assume that social forces such as politics, economics, and religion shape organizations. Perrow argues the opposite, suggesting that large organizations have changed politics, because politicians come from organizations and are beholden to them. Social class is determined by rank and position within organizations, not vice versa. Sophisticated new technologies for producing goods and services have no life without large organizations. The family has been shaped to cope with the organizational phenomenon, with most families being dependent on organizations for wages and livelihood. Religion has even become a large organization phenomenon. The most rapidly growing denominations take advantage of television and of modern marketing and management techniques to increase membership and raise millions of dollars.

However, it is not just the presence of organizations that is important, but knowledge of *organizing*. Consider the awesome accomplishments of organizing during the Persian Gulf war. All air assets reported to a single general, unlike in the Vietnam War, where each service controlled its own aircraft. This enabled the extraordinary coordination of up to three thousand flights a day by a ground team using personal computers combined with four AWACS planes in the air, together keeping the armada of planes from running into each other while carrying out the daily list of target runs, ordnance deliveries, and refueling stops that often ran to three hundred pages. A rapid reaction team was created to acquire custom-built bombs for hard-to-penetrate targets. Within thirty-six hours after ordering a special bomb from the United States, it was being loaded on a warplane in the Gulf. U.S. commando teams sneaked behind enemy lines on dune buggies and motorcycles, sending targeting information to satellites overhead. A new problem arose somewhere in the Gulf every minute, and someone invented a way of organizing to solve it.[24]

Thus, organizations shape our lives, and well-informed managers can shape organizations. We are truly a society of organizations, and a systematic study and understanding of organizations can enable us to use and control this important resource.

Organizations as Systems

OPEN SYSTEMS

One significant development in the study of organizations was the distinction between closed and open systems.[25] A **closed system** would not depend on its environment; it would be autonomous, enclosed, and sealed off from the outside world. Although a true closed system cannot exist, early organization studies focused on internal systems. Early management concepts, including scientific management, leadership style, and industrial engineering, were closed-system approaches because they took the environment for granted and assumed the organization could be made more effective through internal design. The management of a closed system would be quite easy. The environment would be stable and predictable and would not intervene to cause problems. The primary management issue would be to run things efficiently.

An **open system** must interact with the environment to survive; it both consumes resources and exports resources to the environment. It cannot seal itself off. It must continuously change and adapt to the environment. Open systems can be enormously complex. Internal efficiency is just one issue—and sometimes a minor one. The organization has to find and obtain needed resources, interpret and act on environmental changes, dispose of outputs, and control and coordinate internal activities in the face of environmental disturbances and uncertainty. Every system that must interact with the environment to survive is an open system. The human being is an open system. So is the planet Earth, the city of New York, and IBM. Indeed, one problem at IBM was that top managers seemed to forget they were part of an open system. They isolated themselves within the IBM culture and failed to pay close attention to what was going on with their customers, suppliers, and competitors.

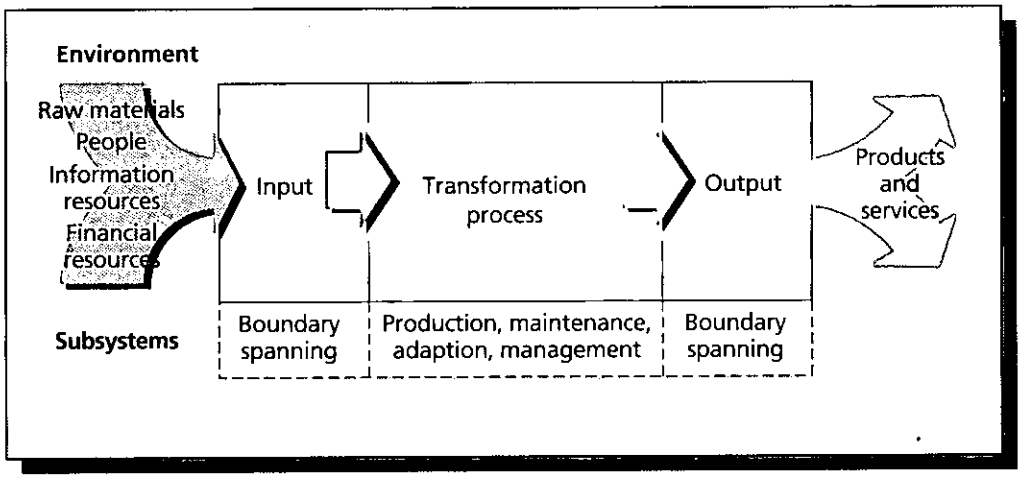
To understand the whole organization, it should be viewed as a system. A **system** is a set of interacting elements that acquires inputs from the environment, transforms them, and discharges outputs to the external environment. The need for inputs and outputs reflects dependency on the environment. Interacting elements mean that people and departments depend upon one another and must work together.

Exhibit 1.1 illustrates an open system. Inputs to an organization system include employees, raw materials and other physical resources, information, and financial resources. The transformation process changes these inputs into something of value that can be exported back to the environment. Outputs include specific products and services for customers and clients. Outputs may also include employee satisfaction, pollution, and other by-products of the transformation process.

ORGANIZATIONAL SUBSYSTEMS

An organization is composed of several **subsystems**, also illustrated in Exhibit 1.1. The specific functions required for organization survival are performed by departments that act as subsystems. Organizational subsystems perform five essential functions: boundary spanning, production, maintenance, adaptation, and management.[26]

Exhibit 1.1 An Open System and Its Subsystems.



Boundary Spanning Boundary subsystems handle input and output transactions; in other words, they are responsible for exchanges with the environment. On the input side, boundary departments acquire needed supplies and materials. On the output side, they create demand and market outputs. Boundary departments work directly with the external environment. At IBM, boundary departments include marketing on the output side and purchasing on the input side.

Production The production subsystem produces the product and service outputs of the organization. This is where the primary transformation takes place. This subsystem is the production department in a manufacturing firm, the teachers and classes in a university, and the medical activities in a hospital. At IBM, the production subsystem actually manufactures computers, software, and workstations.

Maintenance The maintenance subsystem is responsible for the smooth operation and upkeep of the organization. Maintenance includes the cleaning and painting of buildings and the repair and servicing of machines. Maintenance activities also try to meet human needs, such as morale, compensation, and physical comfort. Maintenance functions in a corporation like IBM are performed by such subsystems as the personnel department, the employee cafeteria, and the janitorial staff.

Adaptation The adaptive subsystem is responsible for organizational change. The adaptive subsystem scans the environment for problems, opportunities, and technological developments. It is responsible for creating innovations and for helping the organization change and adapt. At IBM, the technology, research, and marketing research departments are responsible for the adaptive function.

Management Management is a distinct subsystem, responsible for directing and coordinating the other subsystems of the organization. Management provides direction, strategy, goals, and policies for the entire organization. In addition, the managerial subsystem is responsible for developing organization structure and directing tasks within each subsystem. At IBM, the management subsystem consists of the chairman, the vice-president, and the managers of it several divisions.

In ongoing organizations, the five subsystems are interconnected and often overlap. Departments often have multiple roles. Marketing is primarily a boundary spanner but may also sense problems or opportunities for innovation. Managers coordinate and direct the entire system, but they are also involved in maintenance, boundary spanning, and adaptation. People and resources in one subsystem may perform other functions in organizations.

CHAOS THEORY

The new science of **chaos theory** tells us that we live in a complex world full of randomness and uncertainty. Our world is characterized by surprise, rapid change, and confusion, and often seems totally out of our control. Managers can't measure, predict, or control in traditional ways the unfolding drama inside or outside the organization. However, chaos theory recognizes that this randomness and disorder occurs within certain constraints or larger patterns of order.[27]

One characteristic of chaotic systems, called the butterfly effect, is relevant for today's managers. The butterfly effect means small events can have giant effects. A butterfly flapping its wings over Peking can cause air disturbances that will eventually affect the weather in the United States. Today's companies are like the weather—small events may have consequences far beyond their initial strength. For example, an insignificant lawsuit against AT&T had far-reaching effects, resulting in the emergence of MCI and other long-distance carriers and ultimately creating a whole new world of telecommunications. More about chaos theory and its importance for managers is described in Book Mark 1.0.

Today's businesses must be able to respond to the completely unpredictable, within certain bounds of the organization's mission and guiding principles. The rapid change in our world requires organizations to be fluid, perhaps replacing jobs, roles, structures, and even products or services weekly or monthly. In a chaotic world, the big picture is more important than the parts. Managers must imprint the organization's larger mission and values in the minds of employees, thus enabling empowered employees to respond on their own to a random, unpredictable environment. Managers can also flood the organization with information, keeping everyone fully informed. Trends associated with managing chaotic organizations are a shift to worker teams, staying connected to the customer, the empowerment of employees, and a structure based on horizontal work processes rather than vertical functions. Consider the following example of how Ameritech is handling the chaos in today's organizations.

IN PRACTICE ◆ 1.1

Ameritech

Ameritech, one of the top-performing "Baby Bells" born in the revolutionary breakup of AT&T, is now facing competition not only from other Baby Bells but from long-distance carriers and cable television operators. Leaders at Ameritech know that in the current volatile environment, with regulatory authorities opening up the telecommunications business to more competitors, the company simply can't predict how many customers it can attract or keep. In response, Ameritech is reinventing itself, with its major emphasis on serving the customer. It is doing so through "Team Ameritech," in which teams of workers are assigned to stay in touch with and meet the needs of each large customer. The team approach has sharply cut response time to customer concerns.

As has been true at other companies facing chaotic changes, the reorganization at Ameritech has also meant job losses, and for employees used to the old, paternalistic Bell culture, the layoffs are a big shock. To help keep employees aware of what's happening and ease resistance to the widespread changes, Ameritech holds regular seminars for employees and management to talk to one another face-to-face. This hasn't allayed all the fears, but Ameritech continues to emphasize employee empowerment even as management stays committed to the necessity for constant change.[28]

As the pace of change in our society accelerates, the changes faced by organizations accelerate as well. Change and problem solving by everyone have replaced stability and efficiency as the key traits of successful organizations, and the skill needed most by leaders in the 1990s is the ability to manage chaos. To do so requires seeing the organization as a fluid, ever-changing social system that often cannot be managed with traditional, top-down techniques.

BOOKMARK 1.0

HAVE YOU READ ABOUT THIS?

Leadership and the New Science

by Margaret J. Wheatley

In the world of Newtonian physics, every atom moves in a unique, predictable trajectory determined by the forces exerted on it. Prediction and control are gained by reducing wholes into small parts and carefully regulating the forces that act on those parts. In the world of organizations, vertical hierarchy, division of labor, task descriptions, and operating procedures represent the application of Newtonian logic to obtain predictable, controlled results.

Just as Newton's laws broke down as physics explored ever smaller elements of matter and ever wider expanses of the universe, rigid, control-oriented organizations do not work well in a world of instant information, constant change, and global competition. The physical sciences responded to the failure of Newtonian mechanics with a new paradigm called quantum mechanics. And according to Margaret Wheatley in *Leadership and the New Science,* organizations are finding new ways of designing themselves to survive in a quantum world.

Chaos, Relationships, and Fields

Chaos theory underlies quantum mechanics. Disorder underlies apparent order. Individual actions, whether by atoms or people, cannot be easily predicted and controlled. Here's why:

- Nothing exists except in relationship to everything else. Relationships among things are the key determinants of a well-ordered system we perceive. Order emerges through a web of relationships that make up the whole, not as the result of controls on individual parts.
- The empty space between things is filled with fields, invisible material that connects elements together. In organizations, the fields that bind people include a vision, shared values, culture, caring, and information. These fields give an organization its "feel" and are the source of leader influence.
- A system, especially an organization, is defined by the relationships and fields that bind the parts together into a whole. The system cannot be understood by analyzing just tangible parts because relationships and fields are what produce the whole.

Implications for Leadership

Chaos theory provides a new way to see, understand, and lead organizations. Wheatley believes that the new science can influence leaders to:

- Nurture relationships and fields with a clear vision, statements of value, expressions of caring, and the sharing of information.
- Free employees from strict rules and controls so they can develop bonds and relationships that will create a strong, successful organization.
- Concentrate on the whole and not worry about parts in isolation.
- Not waste time unraveling single cause-effect relationships, because they don't exist, or spend time creating elaborate plans and time lines that assume perfect top-down control.
- Design organization structures with an eye to how they facilitate strong relationships among people.
- Remember that the universe will not accede to a desire for tight control and perfectly determined outcomes.

Wheatley believes that large organizations can use this new approach to manage even in a world of constant flux. The new science emphasizes the importance of leadership that enables individuals to create a desirable order and company success.

Leadership and the New Science by Margaret J. Wheatley is published by Berrett-Koehler Publishers.

Dimensions of Organizations

The systems view pertains to dynamic, ongoing activities within organizations. The next step for understanding organizations is to look at dimensions that describe specific

organizational traits. These dimensions describe organizations much the same way that personality and physical traits describe people.

Organizational dimensions fall into two types: structural and contextual. **Structural dimensions** provide labels to describe the internal characteristics of an organization. They create a basis for measuring and comparing organizations. **Contextual dimensions** characterize the whole organization, including its size, technology, environment, and goals. They describe the organizational setting that influences the structural dimensions. Contextual dimensions can be confusing because they represent both the organization and the environment as the context within which the structural dimensions occur. Both structural and contextual dimensions are necessary to evaluate and understand organizations.[29] Key structural and contextual dimensions are listed in Exhibit 1.2.

STRUCTURAL DIMENSIONS

1. *Formalization* pertains to the amount of written documentation in the organization. Documentation includes procedures, job descriptions, regulations, and policy manuals. These written documents describe behavior and activities. Formalization is often measured by simply counting the number of pages of documentation within the organization. Large state universities, for example, tend to be high on formalization because they have several volumes of written rules for such things as registration, dropping and adding classes, student associations, dormitory governance, and financial assistance. A small, family-owned business, in contrast, may have almost no written rules and would be considered informal.
2. *Specialization* is the degree to which organizational tasks are subdivided into separate jobs. If specialization is extensive, each employee performs only a narrow range of tasks. If specialization is low, employees perform a wide range of tasks in their jobs. Specialization is sometimes referred to as the *division of labor.*
3. *Standardization* is the extent to which similar work activities are performed in a uniform manner. In a highly standardized organization like McDonald's, work content is described in detail, and similar work is performed the same way at all locations.
4. *Hierarchy of authority* describes who reports to whom and the span of control for each manager. The hierarchy is depicted by the vertical lines on an organization chart, as illustrated in Exhibit 1.3. The hierarchy is related to *span of control* (the number of employees reporting to a supervisor). When spans of control are narrow, the hierarchy tends to be tall. When spans of control are wide, the hierarchy of authority will be shorter.
5. *Complexity* refers to the number of activities or subsystems within the organization. Complexity can be measured along three dimensions: vertical, horizontal, and spatial. Vertical complexity is the number of levels in the hierarchy. Horizontal complexity is the number of job titles or departments existing horizontally across the organization. Spatial complexity is the number of geographical locations. The organization in Exhibit 1.3 has a vertical complexity of five levels. The horizontal complexity can be calculated as either thirty-four job titles or seven major departments. Spatial complexity is low because the organization is located in one place.
6. *Centralization* refers to the hierarchical level that has authority to make a decision. When decision making is kept at the top level, the organization is centralized.

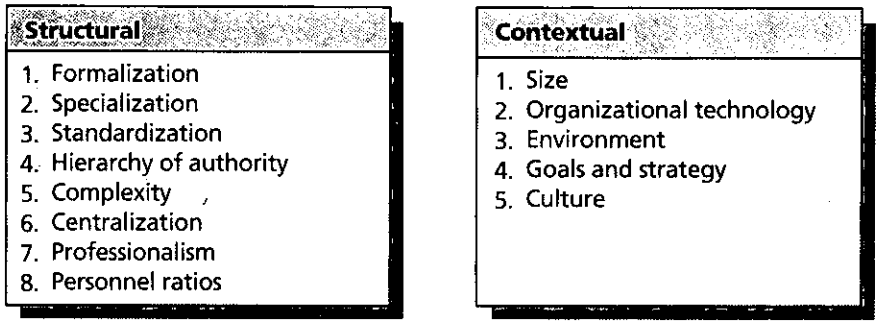


Exhibit 1.2 Structural and Contextual Dimensions of Organizations.

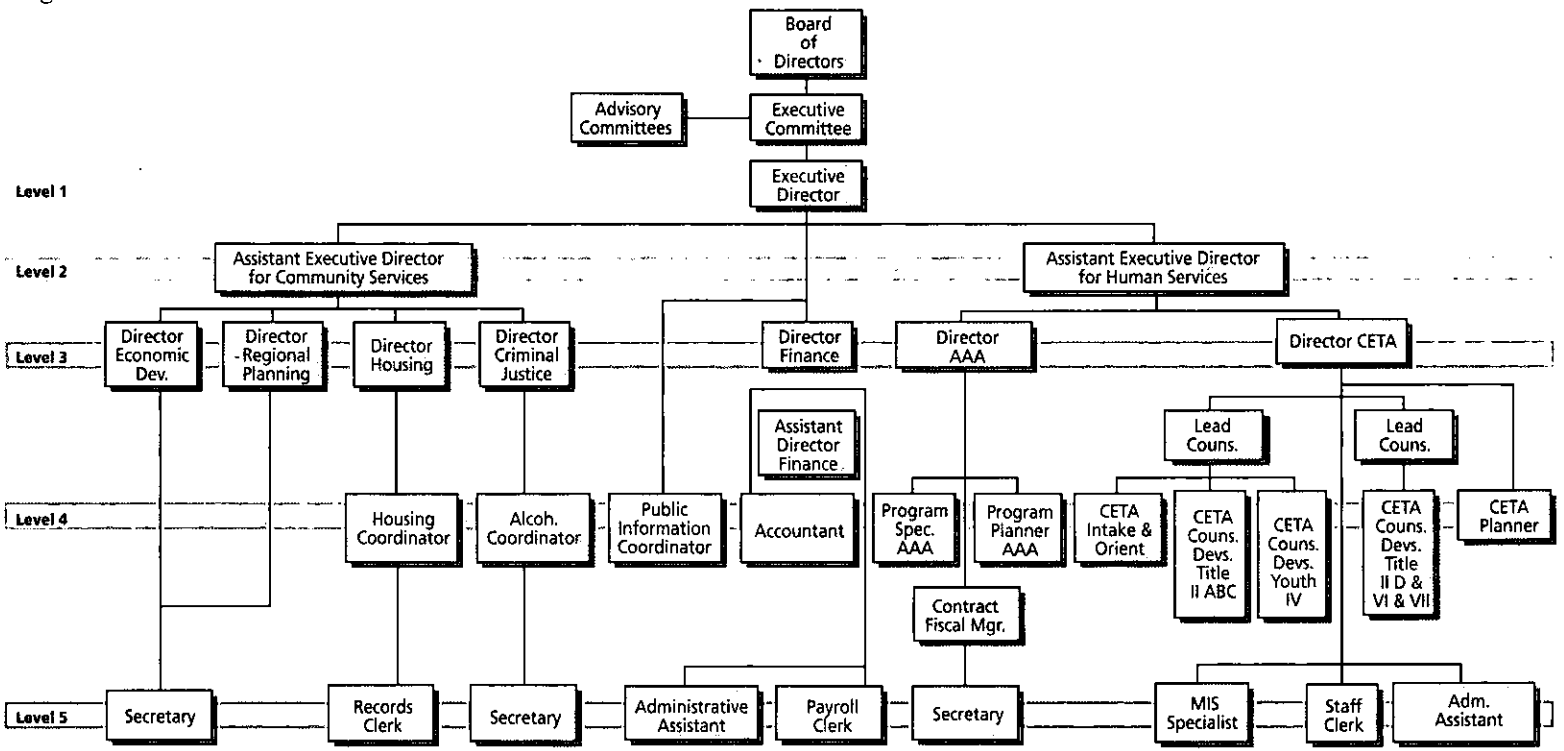
When decisions are delegated to lower organizational levels, it is decentralized. Organizational decisions that might be centralized or decentralized include purchasing equipment, establishing goals, choosing suppliers, setting prices, hiring employees, and deciding marketing territories.

7. *Professionalism* is the level of formal education and training of employees. Professionalism is considered high when employees require long periods of training to hold jobs in the organization. Professionalism is generally measured as the average number of years of education of employees, which could be as high as twenty in a medical practice and less than ten in a construction company.
8. *Personnel ratios* refer to the deployment of people to various functions and departments. Personnel ratios include the administrative ratio, the clerical ratio, the professional staff ratio, and the ratio of indirect to direct labor employees. A personnel ratio is measured by dividing the number of employees in a classification by the total number of organizational employees.

CONTEXTUAL DIMENSIONS

1. *Size* is the organization's magnitude as reflected in the number of people in the organization. It can be measured for the organization as a whole or for specific components, such as a plant or division. Since organizations are social systems, size is typically measured by the count of employees. Other measures such as total sales or total assets also reflect magnitude, but they do not indicate the size of the human part of the social system.
2. *Organizational technology* is the nature of the production subsystem, and it includes the actions and techniques used to change organizational inputs into outputs. An assembly line, a college classroom, and an oil refinery are technologies, although they differ from one another.
3. The *environment* includes all elements outside the boundary of the organization. Key elements include the industry, government, customers, suppliers, and the financial community. Environmental elements that affect an organization the most are often other organizations.
4. The organization's *goals and strategy* define the purpose and competitive techniques that set it apart from other organizations. Goals are often written down as an enduring statement of company intent. A strategy is the plan of action that describes resource allocation and activities for dealing with the environment and for reaching the organization's goals. Goals and strategies define the scope of operations and the relationship with employees, clients, and competitors.

Exhibit 1.3 Organization Chart Illustrating the Hierarchy of Authority and the Structural Complexity for a Community Job Training Program.



5. An organization's *culture* is the underlying set of key values, beliefs, understandings, and norms shared by employees. These underlying values may pertain to ethical behavior, commitment to employees, efficiency, or customer service, and they provide the glue to hold organization members together. An organization's culture is unwritten but can be observed in its stories, slogans, ceremonies, dress, and office layout.

The thirteen contextual and structural dimensions discussed here are interdependent. For example, large organization size, a routine technology, and a stable environment all tend to create an organization that has greater formalization, specialization, and centralization. More detailed relationships among the thirteen dimensions are explored in later chapters of this book.

These dimensions provide a basis for the measurement and analysis of characteristics that cannot be seen by the casual observer, and they reveal significant information about an organization. Consider, for example, the dimensions of W. L. Gore & Associates compared with those of Wal-Mart and a welfare agency.

IN PRACTICE ◆ 1.2
W. L. Gore & Associates

When Jack Dougherty began work at W. L. Gore & Associates, Inc., he reported to Bill Gore, the company's founder, to receive his first assignment. Gore told him, "Why don't you find something you'd like to do." Dougherty was shocked at the informality, but quickly recovered and began interrogating various managers about their activities. He was attracted to a new product called Gore-Tex, a membrane that was waterproof but breathable when bonded to fabric. The next morning, he came to work dressed in jeans and began helping feed fabric into the maw of a large laminator. Five years later, Dougherty was responsible for marketing and advertising in the fabrics group.

Bill Gore died in 1986, but the organization he designed still runs without official titles, orders, or bosses. People are expected to find a place where they can contribute and manage themselves. The company has some 4,200 associates (not employees) in twenty-nine plants. The plants are kept small—up to 200 people—to maintain a family atmosphere. "It's much better to use friendship and love than slavery and whips," Bill Gore said. Several professional employees are assigned to develop new products, but the administrative structure is lean. Good human relations is a more important value than is internal efficiency, and it works. New plants are being built almost as fast as the company can obtain financing.

Contrast that approach to Wal-Mart's, where efficiency is the goal. Wal-Mart achieves its competitive edge through employee commitment and internal cost efficiency. A standard formula is used to build each store, with uniform displays and merchandise. Wal-Mart has more than 1,300 stores, and its administrative expenses are the lowest of any chain. The distribution system is a marvel of efficiency. Goods can be delivered to any store in less than two days after an order is placed. Stores are controlled from the top, but store managers are also given some freedom to adapt to local conditions. Performance is high, and employees are satisfied because the pay is good and more than half of them share in corporate profits.

An even greater contrast is seen in the welfare office at Newark, New Jersey. The office is small, but workers are overwhelmed with rules. One employee pointed to a four-inch stack of memos about recent rule changes resulting from Congress rewriting the

laws concerning food stamp distribution. Employees don't have time to read the memos, much less learn the new rules. Applicants have to fill out four-page forms without a single mistake or food stamps will be delayed for weeks. Along with the rules, the number of applicants has also been increasing. Most office employees have been thrown into the role of serving clients, and there is little staff to do typing and filing. Employees are frustrated, and so are welfare applicants. Fights break out occasionally. One employee commented, "We're lucky we don't have a riot."[30]

Several structural and contextual dimensions of Gore & Associates, Wal-Mart, and the welfare agency are illustrated in Exhibit 1.4. Gore & Associates is a medium-sized manufacturing organization that ranks very low with respect to formalization, standardization, and centralization. A number of professional staff are assigned to nonworkflow activities to do the research and development needed to stay abreast of changes in the fiber industry. Wal-Mart is much more formalized, standardized, and centralized. Efficiency is more important than new products, so most activities are guided by standard regulations. The percentage of nonworkflow personnel is kept to a minimum. The welfare agency, in contrast to the other organizations, reflects its status as a small part of a large government bureaucracy. The agency is overwhelmed with rules and standard ways of doing things. Rules are dictated from the top. Most employees are assigned to workflow activities, although in normal times a substantial number of people are devoted to administration and clerical support.

Structural and contextual dimensions can thus tell a lot about an organization and about differences among organizations. Organization dimensions are examined in more detail in later chapters to determine the appropriate level of each dimension needed to perform effectively in each organizational setting.

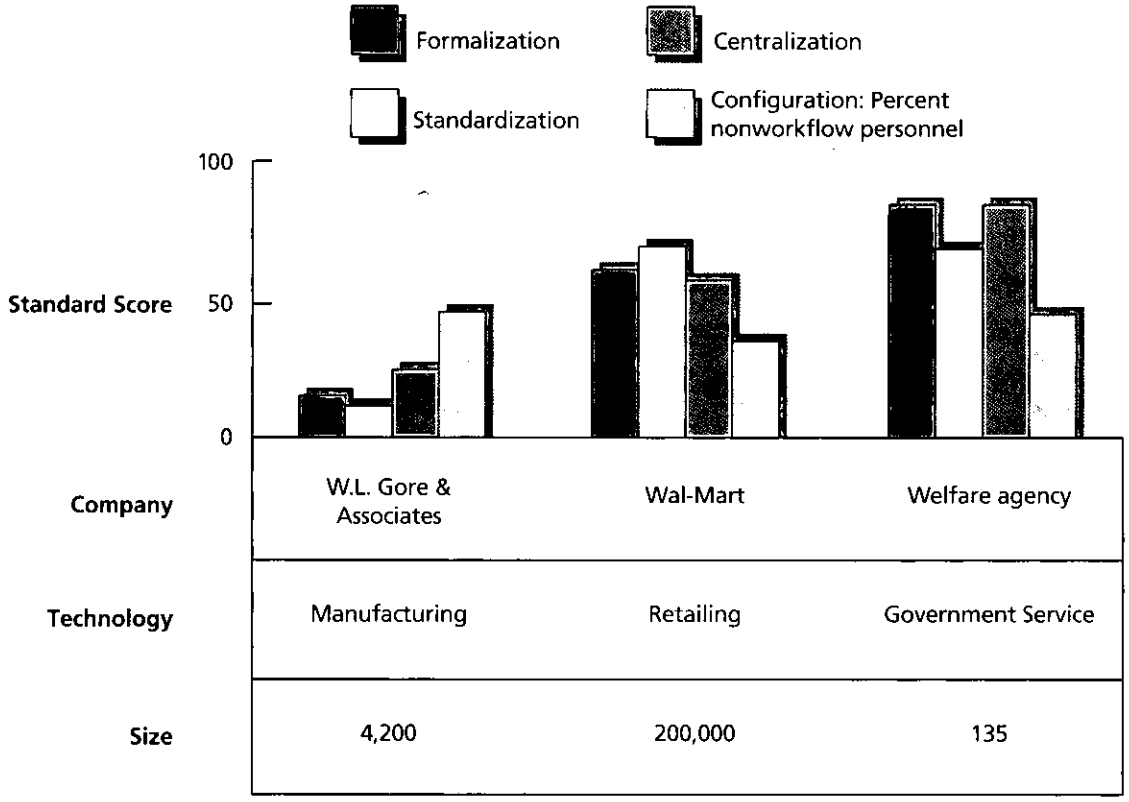
What Is Organization Theory?

Organization theory is not a collection of facts; it is a way of thinking about organizations. Organization theory is a way to see and analyze organizations more accurately and deeply than one otherwise could. The way to see and think about organizations is based upon patterns and regularities in organizational design and behavior. Organization scholars search for these regularities, define them, measure them, and make them available to the rest of us. The facts from the research are not as important as the general patterns and insights into organizational functioning.

HISTORY

You may recall from an earlier management course that the modern era of management theory began early in this century with the classical management perspective, which included both scientific management and administrative principles approaches. **Scientific management,** pioneered by Frederick Taylor, claimed decisions about organization and job design should be based on precise, scientific procedures after careful study of individual situations. **Administrative principles** focused more on the total organization and grew from the insights of practitioners. For example, Henry Fayol proposed fourteen principles of management, such as "each subordinate receives orders from only one superior" (unity of command) and "similar activ-

Exhibit 1.4 Characteristics of Three Organizations.



ities in an organization should be grouped together under one manager" (unity of direction).[31] Scientific management and administrative principles were closed systems approaches that did not anticipate the chaos facing companies in the 1990s.

Following classical management theory, other academic approaches emerged. The Hawthorne studies showed that positive treatment of employees increased motivation and productivity and laid the groundwork for subsequent work on leadership, motivation, and human resource management. The work of sociologists on bureaucracy, beginning with Weber, appeared in the 1950s and 1960s and helped establish the notions of bureaucracy that will be discussed in Chapter 5. Later organizations came to be characterized as rational, problem-solving, decision-making systems.[32]

Scientific management, administrative principles, and bureaucratic approaches to organizing seemed to work well into the 1950s and 1960s. Now we see that success during this period occurred because the economies of Europe and Japan had been shattered by World War II, so North American companies had the playing field to themselves. Organizations became horrendously overmanaged, with bloated administrative ratios and professional staff ratios that would sink many organizations in the 1970s and 1980s. International competition from Europe and Japan provided the rude awakening. For example, Xerox discovered it was using 1.3 overhead workers for every direct worker, while its Japanese affiliate needed only 0.6 overhead workers. By the 1980s, North American companies had to find a better way. AT&T

cut 30,000 managers during the 1980s. The merger of Chevron and Gulf led to the dismissal of 18,000 employees, many of whom were managers. GE laid off 50,000 salaried employees.[33]

The 1980s produced new corporate cultures that valued lean staff, flexibility, rapid response to the customer, motivated employees, caring for customers, and quality products. The world was changing fast because corporate boundaries were altered by waves of merger activity, much of it international, and increased international competition.

The net effect of the evolving business environment and evolving study of organization theory has produced two outcomes: a more organic approach to management and the use of contingency theory and models to describe and convey organizational concepts.

PARADIGM SHIFT

A **paradigm** is a shared mind-set that represents a fundamental way of thinking, perceiving, and understanding the world. Our beliefs and understandings direct our behavior. In today's fast-paced society, a number of shifts in ways of thinking and understanding are occurring, and these in turn are associated with shifts in understanding and behavior taking place in organizations.

Shifts in Society Some of the shifts occurring in society are reflected in Exhibit 1.5 as old versus new paradigms. In today's uncertain world, which seems to grow smaller and more interconnected even as it becomes more fragmented and divided, the scope of reference is by necessity international rather than domestic. In addition, the general population, and thus the work force, is increasingly culturally diverse, and workers are becoming more interested in opportunities for personal and professional growth than in guarantees of economic security. Perhaps one of the greatest shifts has been from an exploitative approach to our world's natural resources to an ecologically sensitive approach. Moreover, there has been a subtle increase in feminine values of feeling, relationship building, openness, understanding, and flexibility, compared to masculine values of competitiveness, rationality, individuality, aggressiveness, and control.[34]

Shifts in Organizations Significant changes are occurring in organizations in response to changes in the society at large. These are reflected in Exhibit 1.6 as a shift from a mechanistic paradigm to an organic paradigm. A tightly controlled approach is associated with a **mechanistic management.** A loose, flexible approach is typically associated with **organic management.**

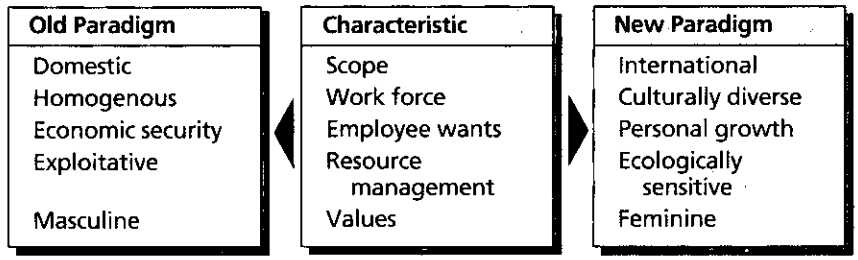


Exhibit 1.5 Old vs. New Paradigms in Society.

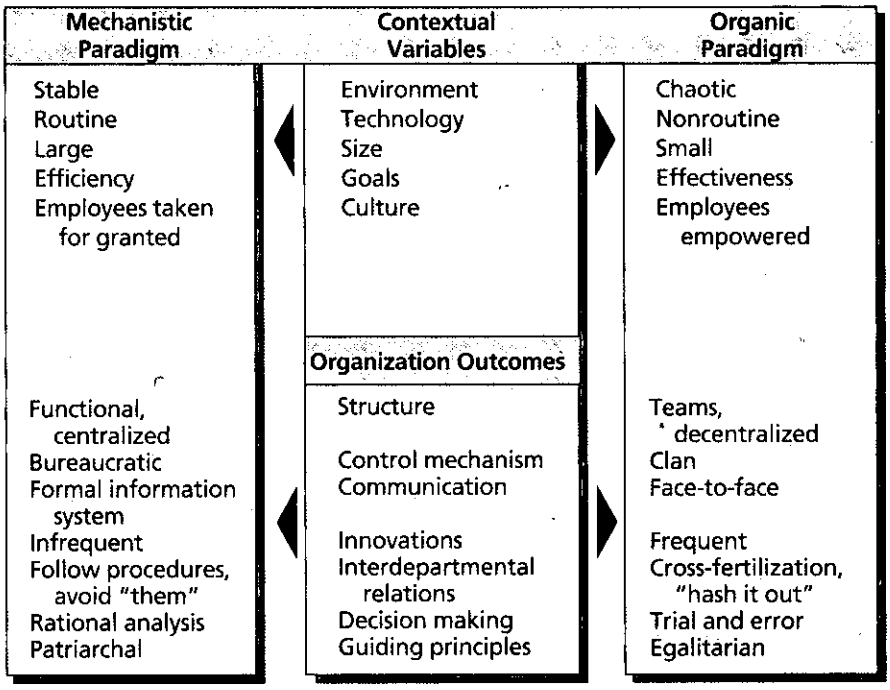


Exhibit 1.6 Mechanistic vs. Organic Organizational Paradigms.

In the old paradigm, environments were more certain than they are today, technologies tended to be routine manufacturing processes, and organizations were suited to large size and efficient production in which employees were treated as just another exploitable resource. Internal structures tended to be vertical, functional, and bureaucratic. The organization could use rational analysis and be guided by patriarchal values reflected in the vertical hierarchy and superior-subordinate power distinctions.[35]

The new paradigm recognizes the unstable, even chaotic nature of the external environment. Technologies are typically nonroutine, and small size is as important as large size, with more emphasis on effectiveness and work cultures that empower employees and nurture a multicultural work force. In the new paradigm, organizations are based more on teamwork, clan control, face-to-face interactions, frequent innovations, and a learning approach. Qualities traditionally considered egalitarian—equality, empowerment, horizontal relationships, and consensus building—are particularly important in the new, organic paradigm. One example of the new paradigm is John Deere, as described in the Paradigm Buster.

CONTINGENCY

Despite the changes in the environment, organizations are not all alike. A great many problems occur when all organizations are treated as similar, which was the case with both the administrative principles and bureaucratic approaches that tried to design all organizations alike. The organization charts and financial systems that work in the retail division of a conglomerate will not be appropriate in the manufacturing division.

Paradigm Buster

John Deere

When is a blue-collar worker not a blue-collar worker? When he's traveling around the country acting like a salesman on a corporate expense account, that's when. Or perhaps when she's training customers or dealers in the proper maintenance of a machine she recently helped assemble on the shop floor. Or when he's working with the plant's engineers to figure out ways to eliminate production problems.

Assembly-line workers at John Deere & Company are performing all these functions and more as Deere redefines the role of blue-collar workers. These efforts are in response to a tough environment and years of downsizing that reduced the company's employee base, particularly white-collar supervisors. As the company continues to face decreasing demand for farm equipment and increasing competition from other companies, Deere Chief Executive Hans W. Becherer believes "reaching out to the workers" is the quickest way to fight back. And, so far, it is working as Deere's costs have gone down and its profits up. Much of the cost-cutting has resulted from the assembly-line workers themselves.

But the biggest changes have been in worker relations. Reflecting a new trend in management, Becherer believed his company had a lot to learn about quality and costs from the people who worked daily on the shop floor. So he instituted aggressive, paradigm-shifting programs, such as the following:

- In partnership with the United Auto Workers (UAW), the company assigns factory workers to temporary jobs in customer service, marketing, and dealer and customer training to diversify their skills.
- An experimental program ties the pay raises of hourly workers to their successful completion of college courses and subsequent demonstration of new skills on the job.
- Hourly workers make unsupervised visits to local farms to see how customers are using the equipment and, more important, to see what needs aren't being met by farm equipment companies.
- Assembly-line workers meet regularly with suppliers to help suppliers cut costs and improve delivery times.

It's a new world of cooperation between labor and management at John Deere and one that requires a new level of harmony and trust. UAW leaders and Deere managers spent three days with a human relations consultant at a rural retreat to forge a better relationship. At the retreat, the two sides were forced to trust each other and work together to traverse a difficult obstacle course. Indeed, both sides may feel they're facing an obstacle course each day as they continue to work for peaceful and cooperative relationships in a fast-changing world.

Source: Based on Kevin Kelly, "The New Soul of John Deere," *Business Week,* 31 January 1994, 64–66.

Contingency means that one thing depends upon other things, and for organizations to be effective, there must be a "goodness of fit" between their structure and the conditions in their external environment.[36] What works in one setting may not work in another setting. There is not one best way. Contingency theory means "it depends." For example, the terms in Exhibit 1.6 illustrate contingency theory. Some organizations may experience a certain environment, use a routine technology, and desire efficiency. In this situation, a mechanistic approach to management that uses bureaucratic control procedures, a functional structure, and formal communication would be appropriate. Likewise, organic, free-flowing management

processes work best in an uncertain environment with a nonroutine technology. The correct management approach is contingent upon the organization's situation.

MODELS

Theories and models are tools for understanding organizations. A **theory** is a description that explains how organizational characteristics or variables are causally related. For scientists, this description may be a written set of formal statements. For managers, a theory reflects the manager's understanding of how the organization works, and it is not written down. A **model** is a simple representation that describes a few important dimensions of an organization. Many types of models exist. For example, a small-scale physical model was constructed for every set in the movie *Raiders of the Lost Ark*. The models were used to diagnose potential filming problems before the real sets were constructed.

Referring once again back to Exhibit 1.6, the mechanistic and organic paradigms represent two models. Each model contains several variables. **Variables** are organizational characteristics that can be measured or that vary in magnitude across organizations. **Independent variables** have causal impact on other organizational characteristics. **Dependent variables** are caused by other phenomena. For example, the environment and technology can be considered independent variables that influence the dependent variables of structure, control mechanisms, and communications in organizations. A stable environment and routine technology will tend to cause different structures, control mechanisms, and communications than will uncertain environments and nonroutine technologies.

Organization Theory Has Multiple Perspectives

Organization theorists—and some managers—tend to align themselves with distinct perspectives or frames of reference toward organizations. The perspective adopted throughout most of this book is sometimes called the rational-contingency perspective. Two alternative perspectives are radical-Marxism and transaction-cost economics.

RATIONAL-CONTINGENCY PERSPECTIVE

The **rational-contingency perspective** carries an implicit manager orientation toward efficiency and maintenance of the organizational status quo.[37] Researchers adopting this perspective accept the organization status quo as given and simply search for regularities to test to predict and control the organization toward greater efficiency and performance. This perspective assumes that managers are intendedly rational. Managers may not always have the correct answer, but they try to do what is logically best for the organization. Rationality means that goals are selected, effectiveness criteria are established, and managers adopt strategies to achieve designated outcomes in the manner best for the organization. Moreover, managers try to logically design structure and processes to fit the contingencies of environment, technology, and other factors in the organization's situation. The rational-contingency view is widely held, and adherents believe that organizations are instruments for

accomplishing tasks that benefit everyone in the organization.[38] Again, most of the concepts in this book are based on the rational-contingency perspective.

RADICAL-MARXISM PERSPECTIVE

Organization theorists who adopt a **radical-Marxism** perspective agree that managers are intendedly rational, but with a twist. Managers are believed to make decisions to maintain themselves in the capitalist class, keeping power and resources for themselves. Managers make decisions not for organizational efficiency and productivity but to maintain or increase their positions. Thus, workers are given small jobs not to increase output but because it "de-skills" workers and prevents them from having a larger claim on the organization. The radical-Marxism perspective is driven by egalitarian values, and CEO salaries that can be two hundred times larger than employee salaries add legitimacy to this argument.

A second aspect of this perspective is the belief in changing the status quo. The goal of organizational theory should be to free organization employees from alienation, exploitation, and repression. Radical-Marxists believe organization theory should have a political agenda that examines the legitimacy of what organizations do and uncovers power and resource distortions. Indeed, the most extreme proponents of this view would like to see a societal transformation that would stop members high in the social hierarchy from dominating lower members.[39]

TRANSACTION-COST ECONOMICS PERSPECTIVE

This approach developed out of the field of economics and has received attention from a number of organizational theorists and organization sociologists.[40] The **transaction-cost economics** perspective assumes that individuals act in their self-interest and that exchanges of goods and services could theoretically occur in the free marketplace. However, as environments become complex and uncertain, the transaction costs become prohibitive. Contracts become lengthy, number in the hundreds, and cannot all be supervised; hence, transactions are brought within the hierarchy of an organization. Behavior can be monitored through supervision, control systems, and audits less expensively than through contracts. A particular organization structure occurs because it is most cost efficient. The goal of individuals in organizations is to reduce transaction costs.

Thus, the focus of this perspective is on the exchange of goods and services rather than on production, and it takes a rather narrow, economic view of organization events. Proponents of the transaction-cost perspective agree it cannot explain all behavior in organizations. Most people and organizations want to behave in ways that minimize costs. However, many activities within organizations are based on trust and social relationships rather than on supervision, contracts, and economic relationships.

What Organization Theory Can Do

Why study organizations? Most people who study organization theory belong to one of two groups: those who are organization managers or potential managers, and those who will not be managers. For the second group, the reason is to appreciate and understand more about the world around them. Organization theory can pro-

vide an appreciation and understanding of what is happening in organizations. As described earlier, North America is a society of organizations, and organizations are the key social entities of our time. By studying organizations, you can learn more about a significant aspect of your environment, just as you would by studying geography, astronomy, or music.

For people who are or will be managers, organization theory provides significant insight and understanding to help them become better managers. As in the case of IBM, many managers learn organization theory by trial and error. At IBM, the managers did not understand the situation they were in or the contingencies to which they should respond. The same thing happened at People Express Airlines. In 1984, it was considered one of the best managed companies; twenty-four months later, it flopped. People Express's informal organization structure and control systems were not suited to a large airline. Organization theory identifies variables and provides models so managers know how to diagnose and explain what is happening around them and thus can organize for greater effectiveness.

In a very real sense, organization theory can make a manager more competent and more influential. Understanding how and why organizations act lets managers know how to react. The study of organizations enables people to see and understand things other people cannot see and understand. The topic of organizational culture has been increasingly important in recent years as organizations shift to structures emphasizing teamwork and consensus building. Companies such as Xerox are finding that by using social scientists to help them understand their culture, they can improve productivity and cut costs.

IN PRACTICE ◆ 1.3

Xerox

When Xerox set out in the 1980s to devise less expensive and more productive training programs for its service technicians, it asked for the help of anthropologist Julian Orr. By going on service calls himself, Orr found that repairing copy machines wasn't the technicians' most difficult job—it was handling the people who were trying to use the machines. He found that a large number of service calls were from customers who simply didn't know how to use the complex copiers, not from users whose machines broke down. The technicians often found themselves acting as teachers. While Xerox was focusing on adding more in-depth and complex technological training, the problems service technicians encountered most often were problems of relationships. With this new knowledge, Xerox could develop methods for helping technicians deal with both the machine and the human aspects of their jobs.[41]

The experience at Xerox shows the positive side of what organization theory can do in the area of corporate culture. Organization theory also covers many additional topics that are discussed in this book. The next section provides an overview of these topic areas.

Framework for the Book

What topic areas are relevant to organization theory and design? How does a course in management or organizational behavior differ from a course in organization theory? The answer is related to the concept called level of analysis.

LEVELS OF ANALYSIS

In systems theory, each system is composed of subsystems. Systems are nested within systems, and one **level of analysis** has to be chosen as the primary focus. Four levels of analysis normally characterize organizations, as illustrated in Exhibit 1.7. The individual human being is the basic building block of organizations. The human being is to the organization what a cell is to a biological system. The next higher system level is the group or department. These are collections of individuals who work together to perform group tasks. The next level of analysis is the organization itself. An organization is a collection of groups or departments that combine into the total organization. Organizations themselves can be grouped together into the next higher level of analysis, which is the interorganizational set and community. The interorganizational set is the group of organizations a single organization interacts with. Other organizations in the community also make up an important part of an organization's environment.

Organization theory focuses on the organizational level of analysis but with concern for groups and the environment. To explain the organization, one should look not only at its characteristics but also at the characteristics of the environment and of the departments and groups that make up the organization. The focus of this book is to help you understand organizations by examining their specific characteristics, the nature and relationships among groups and departments that make up the organization, and the collection of organizations that make up the environment.

Are individuals included in organization theory? Organization theory does consider the behavior of individuals, but in the aggregate. People are important, but they are not the primary focus of analysis. Organization theory is distinct from organizational behavior. **Organizational behavior** is the micro approach to organizations because it focuses on the individuals within organizations as the relevant units of analysis. Organizational behavior examines concepts such as motivation, leadership style, and personality and is concerned with cognitive and emotional differences among people within organizations. **Organization theory** is a macro exami-

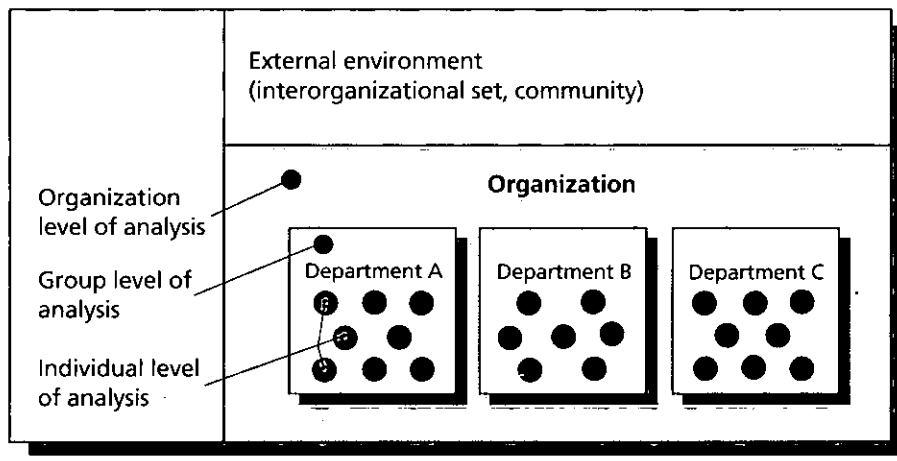


Exhibit 1.7 Levels of Analysis in Organizations.

Source: Based on Andrew H. Van de Ven and Diane L. Ferry, *Measuring and Assessing Performance* (New York: Wiley, 1980), p. 8; and Richard L. Daft and Richard M. Steers, *Organizations: A Micro/Macro Approach* (Glenview, Ill.: Scott, Foresman, 1986), p. 8.

nation of organizations because it analyzes the whole organization as a unit. Organization theory is concerned with people aggregated into departments and organizations and with the differences in structure and behavior of the organization level of analysis. Organization theory is the sociology of organizations, while organizational behavior is the psychology of organizations.

Organization theory is directly relevant to top- and middle-management concerns and partly relevant to lower management. Top managers are responsible for the entire organization and must set goals, develop strategy, interpret the external environment, and decide organization structure and design. Middle management is concerned with major departments, such as marketing or research, and must decide how the department relates to the rest of the organization. Middle managers must design their departments to fit work-unit technology and deal with issues of power and politics, intergroup conflict, and information and control systems, each of which is part of organization theory. Organization theory is only partly concerned with lower management because this level of supervision is concerned with employees who operate machines, type letters, teach classes, and sell goods. Organization theory is concerned with the big picture of the organization and its major departments.

PLAN OF THE BOOK

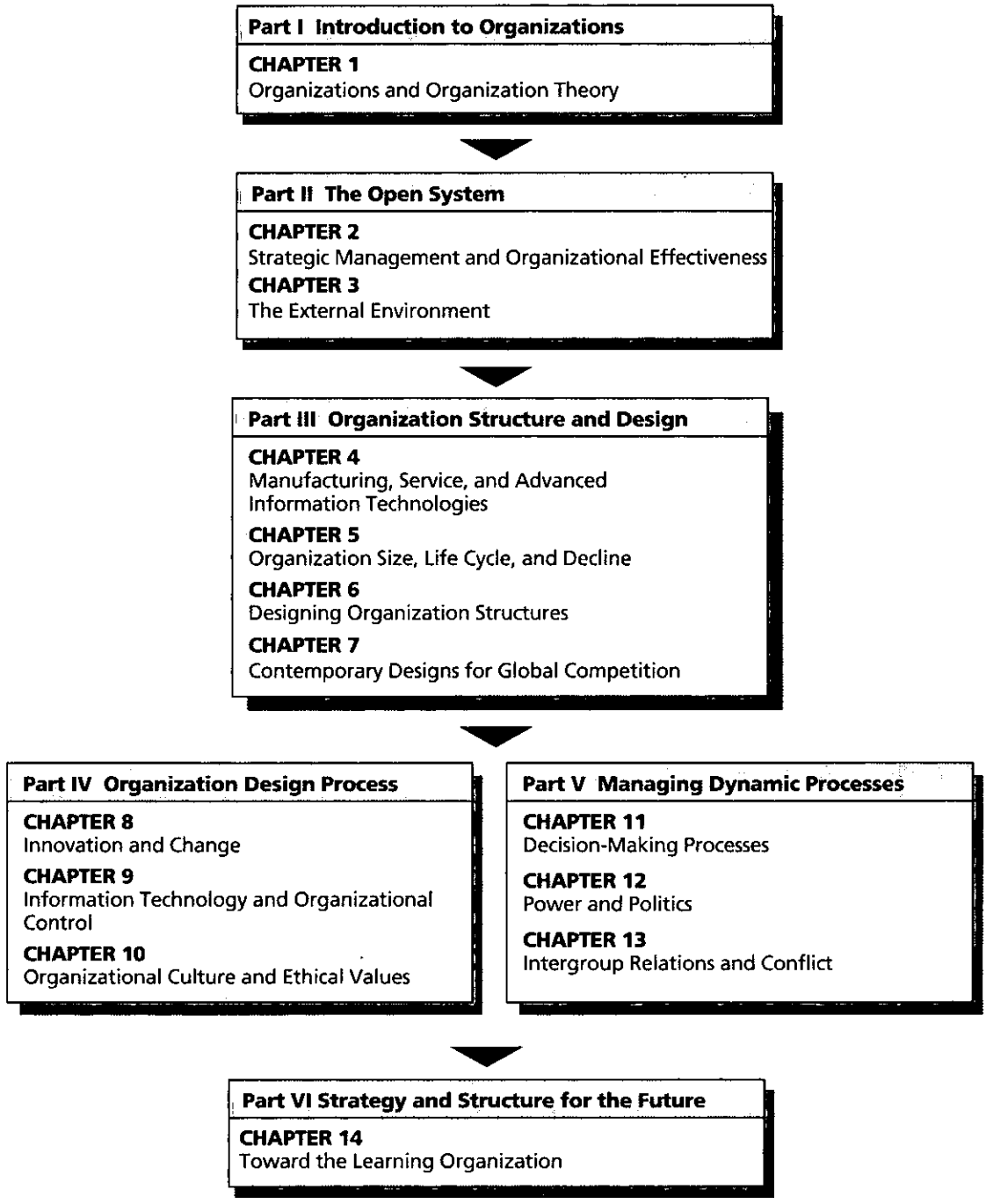
The topics within the field of organization theory are interrelated. Chapters are presented so that major ideas unfold in logical sequence. The framework that guides the organization of the book is shown in Exhibit 1.8. Part I introduces the basic idea of organizations as social systems and the nature of organization theory. This discussion provides the groundwork for Part II, which is about top management, goals and effectiveness, and the external environment. Organizations are open systems that exist for a purpose. The nature of the environment and the achievement of that purpose are the topics of Part II. Part III describes how to design the organization's structure. Organization design is related to such factors as organizational technology and size. This section includes a chapter that explains how to design organization charts and reporting relationships for product, functional, and matrix structures. It concludes with a chapter on new team-based and international designs.

Parts IV and V look at processes inside the organization. Part IV describes how structure can be designed to influence internal systems for innovation and change and for information and control. Part V shifts to dynamic behavioral processes that exist within and between major organizational departments. The management of intergroup conflict, decision making, power and politics, and organizational leadership and culture are covered there. Part VI considers leadership and designs for the future.

PLAN OF EACH CHAPTER

Each chapter begins with an organizational case to illustrate the topic to be covered. Theoretical concepts are introduced and explained in the body of the chapter. Several "In Practice" segments are included in each chapter to illustrate the concepts and show how they apply to real organizations. "Book Marks" are included in most chapters to present organizational issues managers face right now. These book reviews discuss current concepts and applications to deepen and enrich your understanding of organizations. The "Paradigm Busters" illustrate the dramatic changes taking place in management thinking and practice. Each chapter closes with a "Summary and Interpretation"

Exhibit 1.8 Framework for the Book.



section and a "Guides to Action" section. "Summary and Interpretation" reviews and interprets important theoretical concepts. "Guides to Action" highlight key points for use in designing and managing organizations.

Summary and Interpretation

One important idea in this chapter is that organizations are systems. In particular, they are open systems that must adapt to the environment to survive. Change has replaced stability as a key trait in today's organizations. The new science of chaos theory reminds managers that organizations must remain constantly vigilant of the environment and be continuously primed to adapt to random, unpredicted events. A number of paradigm shifts are occurring in our society and in organizations. The trend in organizations today is away from mechanistic, highly structured approaches to management toward looser, more flexible organic approaches. Important issues relevant to organizations today are international competition; flatter, team-based structures; permeable boundaries; face-to-face communication between management and workers; and doing things fast.

The focus of analysis for organization theory is not individual people but the organization itself. Relevant concepts include the dimensions of organization structure and context. The dimensions of formalization, specialization, standardization, hierarchy of authority, complexity, centralization, professionalism, personnel ratios, size, organizational technology, environment, goals and strategy, and culture provide labels for measuring and analyzing organizations. These dimensions vary widely from organization to organization. Subsequent chapters provide frameworks for analyzing organizations with these concepts.

Another important idea is that organization theory consists of multiple perspectives. This book tends to adopt the managerial, rational-contingency approach to organization theory. Other equally valid approaches include the radical-Marxist and the transaction-cost economics perspectives.

Finally, most concepts pertain to the top- and middle-management levels of the organization. This book is concerned more with the topics of those levels than with the operational level topics of supervision and motivation of employees, which are discussed in courses on organizational behavior.

KEY CONCEPTS

administrative principles
chaos theory
closed system
contextual dimensions
contingency
dependent variables
independent variables
level of analysis
mechanistic management
model
open system
organic management
organizational behavior
organizations
organization theory
paradigm
radical-Marxism
rational-contingency perspective
scientific management
structural dimensions
subsystems
system
theory
transaction-cost economics

DISCUSSION QUESTIONS

1. What is the definition of *organization*? Briefly explain each part of the definition.
2. What is the difference between an open system and a closed system? Can you give an example of a closed system?

3. What are the five subsystems in organizations? If an organization had to give up one system, which one could it survive the longest without? Explain.
4. Why might human organizations be considered more complex than machine-type systems? What is the implication of this complexity for managers?
5. What is the difference between formalization, specialization, and standardization? Do you think an organization high on one of these three dimensions would also be high on the others? Discuss.
6. Have you ever gone through a paradigm shift? Describe it. What advantages or disadvantages do you see in working for a leading-edge company like John Deere?
7. What does *contingency* mean? What are the implications of contingency theories for managers?
8. What levels of analysis are typically studied in organization theory? How would these contrast with the level of analysis studied in a course in psychology? Sociology? Political science?
9. What is the value of organization theory for nonmanagers? For managers?
10. Early management theorists believed that organizations should strive to be logical and rational, with a place for everything and everything in its place. Discuss the pros and cons of this approach for today's organizations.

GUIDES TO ACTION

As an organization manager, keep the following guides in mind:

1. Do not ignore the external environment or protect the organization from it. Because the environment is unpredictable, do not expect to achieve complete order and rationality within the organization. Strive for a balance between order and flexibility.
2. Assign people and departments to perform the subsystem functions of production, boundary spanning, maintenance, adaptation, and management. Do not endanger the organization's survival and effectiveness by overlooking these functions.
3. Think of the organization as an entity distinct from the individuals who work in it. Describe the organization according to its size, formalization, decentralization, complexity, specialization, professionalism, personnel ratios, and the like. Use these characteristics to analyze the organization and to compare it with other organizations.
4. Be cautious when applying something that works in one situation to another situation. All organizational systems are not the same. Use organization theory to identify the correct structure, goals, strategy, and organic versus mechanistic control for each organization.
5. Make yourself a competent, influential manager by using the frameworks and models that organization theory provides to interpret and understand the organization around you. Be aware of which perspective you adopt and believe in. Use organization theory to handle such things as intergroup

conflict, power and politics, organization structure, environmental change, and organizational goals.

Consider these guides when analyzing the following case.

Pierce County*

Pierce County, the second largest county in Washington, is located in the west central part of the state. It contains 1,676 square miles of land and 279 square miles of water. The county includes extremely varied topography, ranging from sea level to the 14,410-foot summit of Mount Rainier. The current population is approximately 420,000, of which about 205,000, or 49 percent, reside in the eighteen incorporated towns and cities within the county. These towns and cities range in size from South Prairie with a population of 210 to Tacoma, the third largest city in the state, with a population of about 157,000. Approximately 215,000 persons, or 51 percent of the county's population, live in the unincorporated areas of the county.

Pierce County has a strong economic base; the three dominant forces are wood products, aerospace, and military support. The lumber and wood products industry has become much more sophisticated, with plywood and paper production assuming greater importance. Aerospace activity, mainly related to Boeing, is currently strong as a result of a substantial backlog of commercial aircraft orders. Military support activity has fluctuated, although it is currently quite strong with indications of continued strength. The county is served by three major transcontinental railroads, excellent highways, modern airport facilities, one of the finest deep-water ports in the world, and it is well situated for continued residential, commercial, and industrial growth. Several urban centers have developed throughout the county, and a continued and steady population growth is anticipated in all areas of the county, which will exert a considerable impact on the need for governmental services to ensure orderly development in the future.

Pierce County is governed by a board of three commissioners elected, one each, from three commissioner districts. The present county organization consists of approximately 1,200 employees, of which about 450 work under the county engineer in the department of public works. The overall organization is structured such that approximately forty department or other budget heads report directly to the board of county commissioners. A partial list of these departments and their responsibilities appears in Exhibit 1.9.

*This is an abbreviated version of the Pierce County case prepared by Professor Davis W. Carvey at Pacific Lutheran University, Tacoma, Wash. Preparation of this case was made possible by a grant from the Univar Corporation.

Exhibit 1.9 Partial List of Departments Reporting to the Board of County Commissioners.

The primary responsibility of each department is described below. The approximate number of full-time employees is shown in parentheses.

Assigned Counsel (9)
Provides defense services for those without legal counsel.
Annex Manager (17)
Provides maintenance, security, and fire protection for the County Annex (a large suburban county office building).
Board of Equalization (7)
Conducts property assessment and appeals hearings.
Leases (1)
Negotiates and prepares county lease agreements.
Building Maintenance (45)
Maintains County-City Building (downtown Tacoma office building) operations and grounds (excluding gardens).
Community Action Agency (34)
Administers services for low-income residents.
Community Development (3)
Plans, administers, and evaluates programs using federal community development monies.
Cooperative Extension Service (11)
Offers continuing adult education, primarily related to farming.
County Fair (1)
Responsible for yearly county fair, primarily with parks and recreation workers.
Building Inspection (21)
Issues permits and performs building inspections.
Equipment Rental and Revolving (28)
Purchases equipment and provides maintenance, primarily related to county road department.
Inter-County River Improvement (6)
Cares for and maintains rivers crossing county boundaries.
River Improvement (13)
Cares for and maintains rivers flowing only within the county.
Roads (236)
Supervises road construction and maintenance.
Sewers (7)
Designs and supervises sewer system construction.
Solid Waste Management (31)
Disposes of refuse.
Weed Control (2)
Controls weeds, primarily toxic weeds along county roads.
County Operations (7)
Maintains buildings other than the County-City Building.
County Properties (6)
Maintains county buildings' grounds.
Social Services (9)
Contracts with outside agencies for social services.
Communications (5)
Operates and maintains all county communications systems (except telephone) and coordinates communications of surrounding fire districts, small-town police, etc.
District Court Probation
Provides presentence reports, probation, and parole services for Pierce County district courts.
Fire Prevention Bureau (15)
Conducts fire inspections and provides related enforcement.
Information and Research (2)
Completes research, analysis, and report preparation.
Involuntary Commitment (6)
Takes actions related to arranging care and hospitalization for the mentally ill.
Law Enforcement Support Agency (43)
Answers Pierce County emergency telephone number and dispatches the Pierce County Sheriff and the Tacoma Police Department.
Law and Justice Planning (6)
Controls crime-reduction planning and improvement of the criminal justice system.
License (6)
Issues business and occupational licenses.
Manpower Planning (34)
Conducts employment and training programs.
Parks and Recreation (65)
Oversees parks and recreation.
Planning (23)
Conducts comprehensive planning for the county, and administers zoning and related codes.
Purchasing (6)
Purchases supplies and equipment for county operations.
Central Stores, Print Shop, and Mail Room (18)
Controls office supplies, printing, and mail collection and distribution, respectively.
Remann Hall (104)
Administers juvenile court and related services.
Veteran's Aid (4)
Provides veteran's emergency services.
Area Agency on Aging (7)
Provides services for older citizens.
Equal Employment Opportunity (3)
Implements and monitors effectiveness of the Pierce County affirmative action plan.

At least some of the hodgepodge nature of the present organizational structure can be attributed to the rapid growth of both federal and state programs impinging upon county government and services. Frequently, to obtain monies channeled through these programs, the county has had to establish a separate administrative unit to apply for funds and then administer that particular program. Many of these programs have overlapping responsibilities and relationships with a variety of other programs, governmental (federal, state, and local) units, and numerous planning and advisory groups. The result has been a growing bureaucracy consisting of many semiautonomous "fiefdoms" reporting to the commissioners. This system has been subject to increasing citizen criticism in recent years as more and more county residents become disenchanted with what they apparently consider to be an inadequate governmental response to their problems.

Citizen criticism of Pierce County government in general, and of individual commissioners from time to time, continued to mount through the 1970s. During this period, a substantial and growing pressure for change developed, eventually culminating in a 1976 freeholder election to determine whether a *board of freeholders* (that is, a group of fifteen county residents) should be elected for the purpose of studying various forms of government and framing a charter for Pierce County (which would then be put to a vote, for approval or rejection). The most vocal support for the charter plan came from a group called Citizens for a Freeholder Election, chaired by attorney Robert Deutscher. This group conducted a year-long campaign to have the freeholder plan approved. The major opposition came from civic affairs leader Virginia Shackelford and the Factual Information on Freeholder Elections Committee, which she headed. The Pierce County Central Labor Council also came out strongly against the plan.

The 1976 election showed that the citizens of Pierce County did want a change, although, judging from the election results, not as drastic a change as some had hoped. On the one hand, the freeholder proposition was defeated, capturing approximately 48 percent of the vote. On the other hand, the single commissioner up for reelection, two-term incumbent George Sheridan, was soundly beaten by state senator Joe Stortini. Stortini suggested the voters were convinced that meaningful changes were possible within the framework of the present county governmental system and that his own anti-incumbent campaign may have contributed to the freeholder drive's defeat.

One of Commissioner Stortini's first acts after being sworn in was to begin following through on his major reform campaign promises by announcing the appointment of two citizen task forces. One group was to be charged with designing a centralized personnel system, while the other would focus on developing a plan for restructuring the organization (both plans to be implemented within the present commissioner system framework). This action immediately drew the wrath of the local League of Women Voters. Stortini, in spite of this early hostility to his methods, went ahead with his task force program.

The Task Force on Reorganization soon found that the actual workings of the existing organization were so complex and yet so uncoordinated that it was difficult to get complete information concerning each county program in a reasonable length of time. Thus, after several meetings, the task force decided to proceed using the information shown in Exhibit 1.9 as a starting point from which to begin developing a meaningful organizational structure.

QUESTIONS

1. In addition to drafting a proposed chart, analyze and discuss the contextual and structural dimensions of the Pierce County government organization.
2. What are the forces acting on the county commissioners? Will these forces result in a loose or tight management approach? Explain.
3. How might you restructure the departments that report to the county board of commissioners to achieve greater efficiencies and improve responsiveness to county residents?

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