

4

THE CONTEXT OF ORGANIZATIONS

After studying this chapter, you should be able to:

- A Identify the important contextual dimensions that influence organization and managerial activities, and describe how systems theory can be used for understanding that influence.
- A Identify six environmental domains used for classifying factors in an organization's environment.
- A Identify six environmental dimensions that describe the manner in which organization factors are arranged in the environment.
- A Discuss the role that environmental uncertainty has on managerial practices.
- A Summarise and describe the techniques that managers can use for adapting their organization to the environment and controlling factors in the environment that influence an organization.
- A Discuss why exchange relationships with other organizations are necessary and how managers can conceptualize and identify the nature of those relationships.
- A Describe the roles that size and age play in an organization's growth cycle.
- A Describe the stages of growth of an organization, and the categories of organization decline.

In this chapter we will explore the impact of organizational context on managerial performance. Managers must recognize that an organization's context affects and is affected by managerial decisions and activities. We will identify and discuss various contextual dimensions that influence an organization. The term **contextual dimensions** refers to the structure, or pattern, of events and activities that are either external or internal to an organization. Knowledge of the context of an organization enables managers to understand more fully how the context affects their organization at the present and facilitates predictions about how the context will affect their organization in the future. By the end of this chapter, you should gain a basic understanding of how managers can formulate, analyze, and manipulate an organization's context in order to increase overall organization success. Figure 4-1 displays the contextual dimensions of an organization that will be discussed in this chapter.

ORGANIZATION CONTEXT

Organizations operate and exist in a context. The term *context* is used to identify dimensions of activities and events that reside outside of

Figure 4-1

CONTEXTUAL DIMENSIONS
OF ORGANIZATIONS

an organization's boundaries as well as dimensions that are unique characteristics of the organization as a whole. Contextual dimensions of an organization include the external environment, stages of growth, the ownership of the organization, and the relationships organizations have with other organizations in the environment. Each of these contextual dimensions has important implications for the ways managers engage in planning, organizing and staffing, directing, and controlling the organization. Organization context, therefore, can be viewed as "the ecology of the organization."¹

For most organizations, the external context, or environment, is most readily identified by the market for which they are trying to provide a good or service. Yet, the external context can also include events and activities that do not reside in the market the organization is serving. For instance, a television station operates in a specific market in which viewers, advertisers, program producers, and news services all affect the broadcasting by the television station. Similarly, governmental regulations,

1. J. Pfeffer and G. Salancik, *The External Control of Organizations: A Resource Dependence Perspective* [New York: Harper & Row Pubs., 1978], 1.

technological changes in unrelated industries, national events, and other organizations that provide information and entertainment may also affect the operations of the television station. Contextual dimensions, such as an organization's environment, are important because they influence the methods by which managers utilize resources in order to effectively plan, organize and staff, direct, and control organization activities.

Contextual Dimensions

We can think of an organization's context as an array of inter-related dimensions, perceived or not perceived by organization managers, that influence activities and ultimately organization performance. By interrelated, we mean that contextual dimensions of an organization affect one another and, at times, managers must account for this interrelationship in their decision making. For instance, the stage of organizational growth is a dimension that is unique to the organization and is highly interrelated with the organization's environment. If managers desire to move the organization into a new stage of growth, they must assess whether or not the environment provides opportunities for growth in order to make the effort successful. Additionally, relationships with other organizations may be an outcome of the pattern of ownership. Owners may control multiple organizations which in turn can determine whether they have an active or passive role in the management of an organization.

Contextual dimensions that influence an organization or a manager may be fairly constant over time or they may change every hour. When a contextual dimension changes, such as when an organization is bought by new owners, it not only requires an understanding of how the new ownership will affect the organization and its activities, but also an understanding of how the ownership change will affect the influence of other contextual dimensions of the organization as well.

The task of the manager would be considerably less complicated if contextual dimensions of the organization remained constant. Managers could then reduce the number of unique situations confronted over the course of time and become quite skilled at handling recurrent problems. However, this is a situation that managers can only dream about. In actuality, no organization exists that resides in a totally stable or nonchanging context. Indeed, contextual change is occurring at a greater rather than a lesser degree for most organizations today.

This observation raises an important question regarding our understanding of the contextual nature of an organization. What conditions would have to exist for an organization to reside in a context where dimensions are stable over time? As discussed in Chapter 2, the answer to this question rests with viewing each and every organization as a system.

Organization Context and Systems Theory

We define a system as a set of units, or subsystems, that interact with each other.² Systems can be classified further as closed and open. A closed system is one where the boundary of the system is not penetrated by activities or events that exist outside of the system's boundary. In this respect, the system functions on its own without the need for external resources to maintain its operations. Closed systems are most clearly represented by mechanical contraptions such as a thermostat or a nuclear-powered clock. A religious monastery would most closely represent an organization that is a closed system.

An open system, on the other hand, is one where resources external to its boundaries are essential for the system's survival. That is, in order for the system to continue operating, its boundaries must be penetrable so as to enable the system to acquire the necessary resources to keep it operating. Human organisms represent open systems in that food and water, which are external to an individual, are essential for the continued operation of the body. We can also make the observation that all organizations are open systems. The monastery referred to previously, after all, cannot survive without recruiting new members from nearby communities. And oftentimes, monasteries rely on nearby communities to sell goods manufactured by monks residing in the monastery. Hence, human organisms, like a monastery, must have penetrable boundaries in order to survive. Figures 4-2 and 4-3 depict closed and open systems.

How can we then use the concept of systems theory to address questions concerning the stability of an organization's context? First, the conditions that would have to exist within an organization's context in order to prevent change from activities other than internal would be those conducive to a closed system. The organization would not need to acquire resources (e.g., information about markets, money to finance operations, materials to produce goods, or members with skills) to survive over time. Thus, for the organization to prevent change due to external activities and events, dependency on other organizations would have to be avoided. Any system which has to acquire resources external to its boundary will be subject to change from external sources.

ENVIRONMENTAL DOMAINS AND DIMENSIONS

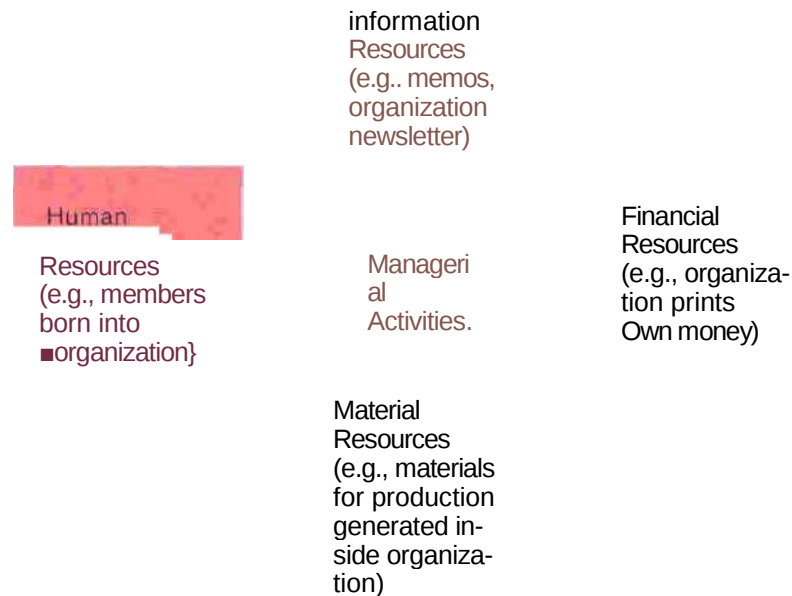
We define environment as all elements residing outside of an organization's boundary that have the potential to affect some or all of the activities occurring in the organization. Environmental elements con-

2. For a more extended discussion of the systems concept and its application to management theory, see L. von Bertalanffy, "The History and Status of General Systems Theory," *Academy of Management Journal* 15 (1972): 407-26.

Figure 4-2

A CLOSED-SYSTEM (ORGANIZATION)

ENVIRONMENT

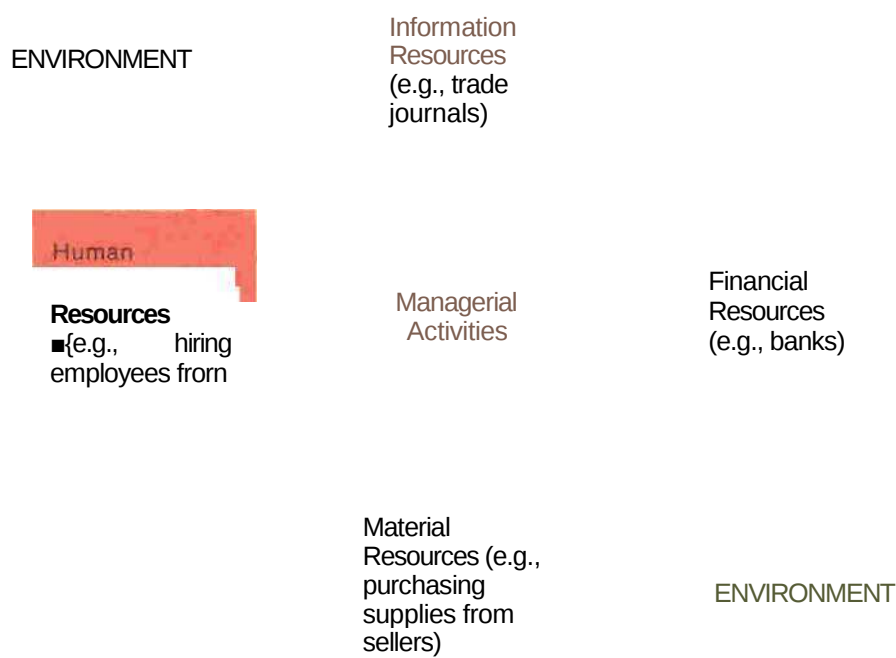


ENVIRONMENT

sist of information; capital, material, people, and other organizations. Elements that have an impact on organizational activities are referred to as **environmental factors**. Elements that have no impact on organizational activities are referred to as **environmental components**. For example, consider a fast-food hamburger restaurant operating near a college campus. Meat packers who provide hamburger to the restaurant can be classified as a factor. The campus bookstore would be a component. Students who purchase a meal from the restaurant are considered to be factors. Students who choose not to eat at the restaurant would be components. Information concerning the patterns of hamburger consumption among college students would be a factor for the restaurant. Information regarding an election in Argentina is a component (see Table 4-1).

However, components may become factors and factors become components. The campus bookstore may open a cafeteria serving hamburgers which is in direct competition with the fast-food restaurant. Increasing numbers of students may decide to eat more often at the restaurant bringing in new customers. The election of a new president in Argentina may result in a change in beef export policy and thus affect the

4-3 AN OPEN-SYSTEM ORGANIZATION



price of hamburger in the United States. What is critical to recognize is that managers need to know not only what constitutes a factor and what constitutes a component, but also how and why they shift from one to the other.

Table 4-1 COMPONENTS AND FACTORS OF A HAMBURGER RESTAURANT

Element	Component	Factor
.Price of beef:		
Frice of a cigar:		
Students purchasing hamburgers;		
Students who are vegetarians:		
Minimum wage laws;:		
iiitart and ending of the school year:		
JSeneral Motors opening a plant in Tennessee;		
Cleveland Indians winning a baseball pennant:		
McDonald's opening a franchise next door:		
City ordinance concerning public health:		
Discovery of a cure for cancer:		

Environmental Domains

An understanding of environmental elements is augmented by identifying environmental domains which contain various amounts of factors and components for any one organization. We can conceptualize and analyze six environmental domains that influence the activities of an organization; economic, political, social, technological, competitive, and physical domains. Some organizations may have factors residing in each of these domains. Other organizations may have factors in only one domain where the other five domains consist of elements that are components. However, managers should be knowledgeable about each domain because changes in the environment may transform elements previously thought to be components into factors and vice versa. Situation 1 provides an understanding of how environmental domains changed for AT&T after a federal court ordered its breakup.

SITUATION 1 The

Case of AT&T

On January 1, 1984, American Telephone and Telegraph Co. (AT&T) put into effect a federal court order which deregulated, in part, the company's operations. The court order signified the end of an era—the monopoly of the American domestic telephone service. This monopoly had provided, according to some, the best service in the world under the mission of "One System, One Policy, Universal Service." However, the American free-market mentality, antitrust climate, suspicion of monopolies, protests from would-be competitors and AT&T's interest in diversifying to information systems were some of the forces driving that decree. As a result, seven regional telephone communications companies were dismembered from AT&T in an operation as painful to the employees as it was confusing to the public. A family of 1 million employees was torn apart and either sent to one of seven new regional companies or remained with the diminished parent. Employees not only suffered emotional shock but the aftermath of divorce proceedings. "Ma Bell doesn't live here anymore" proclaimed CEO Charles Brown prior to the decision heralding a change not only in structure, mission, and strategy but also in corporate culture.

The 107-year-old culture of AT&T was molded by a regulated monopolistic environment which protected the company from competition. At one point in time (1930s), the government was considering nationalizing the phone system similar to what was being done in Europe, yet AT&T convinced the government to retain its independence. The watchful eye of the Federal Communications Commission would regulate interstate and international communications by virtue of the Communications Act of 1934. Nevertheless, AT&T would have a long history of legal battles with regulators and competitors, over patents at first and antitrust suits later. For example, the Justice

Department of the United States sued AT&T, charging that telephone rates were kept artificially high because AT&T required equipment to be purchased from its manufacturing plant (Western Electric) by the local telephone companies. The government sought to have AT&T divest itself of its manufacturing operations. The suit was finally settled without divestiture in 1956 when it was agreed that AT&T would limit its manufacturing operations, would not enter new markets, would restrict itself in common carrier communications, and would grant licenses to those who applied for technical information.

Prior to 1968, AT&T, as a monopoly carrier, held that no one could connect equipment to the AT&T network because of potential harm to the network. Therefore, AT&T provided the communications service and equipment. However, in 1968, the FCC decided in favor of Carter Electronics Corporation of Dallas in its petition to connect its equipment to the AT&T network. The 1968 "Carterphone" decision, though, required that "protective" equipment be installed between the network and the non-Bell device which by 1977 was no longer required. This enabled consumers to buy and use telephones from suppliers other than Bell.

The above actions began an erosion of the Bell monopoly that culminated in divestiture of the twenty-two operating telephone companies as settlement of yet another antitrust suit brought by the Justice Department in 1974 which ended January 8, 1982. The divestiture agreement which went into effect on January 1, 1984, left AT&T with long-distance, manufacturing (Western Electric) and research and development (Bell Labs) operations and grouped the twenty-two operating companies into seven regional telephone companies.

The new environment however is highly competitive although some parts of AT&T remain regulated while the competition is not; telephone equipment is completely deregulated: long-distance AT&T remains regulated while all competitors are not: and computers and other products are deregulated. For example, the long-distance market is currently a mixed bag of monopoly and competitive players. AT&T is subject to old monopoly regulation while others operate without restrictions. Competitors claim this is fair by citing AT&T's huge market share and vast resources which would crush fledgling competitors. According to reports, AT&T has lost market share in equipment and long distance while it has increased market share in international sales and automated office equipment.

Technology also pushed AT&T into the open. AT&T was prohibited from entering the data processing market while functioning as a monopoly. It was determined that data processing and data communications were two distinct operations. However, ensuing technological innovation reduced this distinction, and as a result, AT&T was finally allowed to enter the market via a separate subsidiary, American Bell, on January 1, 1983. AT&T already had the new data processing technology available for in-house use but could now commercialize it. Thus, before the major divestiture, part of AT&T had already entered into the competitive environment.

The breakup of the giant AT&T set the stage for a telecommunications upheaval. This also reestablished the earlier driving forces of AT&T to an emphasis on innovation. But prior to the breakup, innovation resulted from expanding new technology, whereas after the breakup, emphasis was placed on innovation to fulfill customer needs. For Bell Labs, whose employees had

won several Nobel prizes for creating new technologies (e.g., the transistor and silicon chip), what was needed was a system to reduce the time between product development and production as well as to focus on customer needs rather than pure basic research.

Given competition, AT&T focused on changing from a service-oriented company to a market-driven company. For the customer, the AT&T breakup hit closer to home and to the wallet. In general, residential customers would pay more for phone service while business customers would pay less. Customers would face the danger in some areas of service deterioration because local service would no longer be subsidized by artificially high long-distance rates. Some customer groups have complained that cost-based pricing makes it impossible in high-cost, often rural areas to have a phone. As residential rates are tied closely to costs for the service, big variations in what people pay in different parts of the country have occurred.

Customers have found obtaining various services to be confusing. One company may provide long-distance service, another equipment, and yet another local service. Also, leased phones changed ownership. Local telephone companies originally owned them, but ownership was transferred to American Bell. As a result of these divisions, customers often receive at least three phone bills: local service, long distance, and equipment rental.

Finally, long-distance calling became more diverse. Many customers not only have to use long distance for interstate calls, but also for calls to areas within their metropolitan region. Customers can now choose from a variety of carriers, but those carriers vary in cost, methods of connection, services, and transmission quality.

For the investment community, divestiture was the largest corporate event in history. Once considered to be a safe and minimum risk stock characterized by predictable earnings (even during the Great Depression AT&T continued to pay \$9 dividends), AT&T stock was initially approached with caution and uncertainty. Wall Street was uncertain about AT&T's ability to adjust to the newly deregulated competitive environment. AT&T lost triple A ratings from Moody after 20 years because of the perceived risk of managing the split up and entering new markets.

In response, AT&T applied pay freezes, employee layoffs and plant closings all in an effort to make operations more efficient. Chairman Brown summarized the necessary steps taken in the 1984 annual report;

One of the principal adjustments we have had to make is to lower our cost structure and improve our margins. We had to come to grips with the fact that not all the work done when we were "the telephone company" has a place in this new business environment—and that we could operate with a much smaller management force. As a result, jobs have been eliminated through attrition and voluntary and involuntary layoffs.

Source: Susan C. Schneider and Ellen Powley. "The Role of Images in Changing Corporate Culture: The Case of AT&T." paper presented at the Standing Conference on Organizational Symbolism, Antibes, France, 1985

Economic Domain. Economic elements are the most readily identified by managers in most organizations. Organizations exist within an economic system that influences the way in which managers decide on a proper course of action for the organization. Economic systems may take the form of free enterprise or a controlled economy as exists in some European societies. Interest rates, trade deficits, inflation rates, Gross National Product indicators, and the money supply are all economic elements that may be factors or components for an organization. Elements in the economic domain are important because they have implications for the ability of organization managers to obtain critical resources to convert into goods and services and in the distribution of those goods and services to a market.

Generally, one can identify economic elements that function as factors for virtually all types of organizations. Suppliers, whether individuals or organizations, provide raw materials, labor, equipment, and financial inputs to an organization. The price that a supplier charges for those inputs will oftentimes affect the profit and sales of the organization which acquires them. Customers also constitute an economic factor in regard to their willingness or unwillingness to purchase a good or service at a designated price. Hence, managers must not only be aware of trends within the larger economic system, but also must be sensitive to more immediate economic factors related to the manufacture and distribution of their products.

Managers spend considerable time forecasting economic changes because those changes influence the cost of borrowing money, the ability to market goods overseas, and the cost of materials from suppliers. Banks may raise their lending rates in anticipation of increased inflation. Computer manufacturers may delay building a new plant believing that interest rates will drop within the year. Steel manufacturers may find it difficult to obtain materials overseas due to a high trade deficit making the price of imported materials expensive. On the other hand, some organizations are insulated from economic conditions. Rolls Royce, the manufacturer of expensive luxury cars, claims to be unaffected by economic factors. Rolls Royce customers are not known to be overly concerned with the price of the car. Health food stores often find that the economy has little effect on their sales. Hence, banks, computer manufacturers, and steel companies have many factors which reside in the economic domain of the environment whereas manufacturers of luxury cars and health food stores find mostly components residing in their economic domain.

AT&T for example, has had to consider a wide array of economic factors throughout its history. Because the firm has operated in international markets, it has had to respond to interest rates, trade deficits, and inflation not only in the United States, but abroad as well. For instance, the price of long-distance calling overseas will be affected by the value of a foreign country's currency in relation to the U.S. dollar. When foreign currency is increasing in value relative to the dollar, the cost of a long-

distance call to the country will increase. When foreign currency is decreasing in value relative to the dollar, the cost of a long-distance call to the country will decrease. Since the value of a country's currency changes on a daily basis, AT&T must be sensitive to the direction of change as well as the rate of change in currency throughout the world.

The breakup of AT&T, as discussed in Situation 1, has transformed many economic components into factors. Pricing of goods and services to customers used to be determined by the cost of providing goods and services in respect to a regulated profit margin. With the introduction of competition and entrance into new markets, AT&T is now required to price its goods and services based on competitive pricing and demand in the marketplace by customers. In addition, resource suppliers were previously constrained in the price they charged AT&T due to demand being restricted to one company. After the breakup, prices of supplies could be adjusted based on demand from multiple organizations that are currently providing telephone service to customers. This change in elements in AT&T's economic domain has, of course, required management to establish new systems for determining the price and cost of its goods and services.

Political Domain. The political domain of an organisational environment consists of the legal fabric of a society. In the United States, governmental agencies and legislative bodies have passed and enforced laws and regulations that affect organizations. Legislation has been directed toward the elimination of discrimination based on sex, race, and age. Other forms of legislation have been designed relating to elimination of sexual harassment in the workplace, prevention of unfair pricing in the market, restrictions on pollution, consumer protection, and methods of corporate taxation. However, the enforcement of these laws and regulations often varies by the party or individual who occupies political office. For instance, enforcement of civil rights laws and pollution controls has varied due to differing beliefs by both political incumbents and the electorate about the need to enforce such legislation. Managers not only need to be aware of legislation, but more importantly, must strive to understand how legislation will be interpreted in enforcement procedures.

Not all organizations, however, are affected equally by such legislation. Some legislation is specific to industries such as the manner in which toxic wastes are disposed of in the chemical industry, restrictions on licensing of banks in the financial industry, the mode of competition in the airline industry, and the use of materials for the construction of products in the toy industry. Human service organizations may not have to be concerned with laws designed to control pollution, but would have to be concerned with laws that affect hiring practices. Steel companies may have to contend not only with pollution and hiring laws, but also with laws related to competition, occupational safety, consumer warranties, and methods of extracting and transporting iron ore which is neces-

sary to produce steel. One particular industry that has been confronted with multiple legislation and enforcement has been the tobacco industry. Laws have been passed restricting the advertising of cigarettes on television in addition to requirements to print health warnings on the labels of packages and cartons of cigarettes.

The AT&T divestiture case clearly presents the impact that elements in the political domain have on an organization. After many years of legal maneuvering centering on whether or not AT&T was in violation of antitrust laws, an agreement was reached whereby AT&T would remove itself from local telephone service markets in exchange for the opportunity to compete in the data processing market.

Social Domain. The social domain of an organization's environment consists of societal values, attitudes, norms, customs, and demography. Every society contains values and attitudes that may be uniform across a population or may vary by regional or ethnic groupings. Values are what people believe to be appropriate goals for members of the society to retain or achieve. Attitudes reflect what individuals think about issues and behaviors that occur within a society. In the United States, most citizens value the freedom of speech as a necessary feature of their daily lives. They may have the attitude, however, that this right is abused by other citizens. Citizens in other countries may feel that freedom of speech is unnecessary or a value that only leads to dissension and disruption in their daily lives. Other values and attitudes that may differ by regions within a country or between countries include the role of the family as a mechanism to socialize the young, the importance of clean air to breathe, or the role of religion in political institutions. Values and attitudes are often expressed in the legal codes of countries such as the First Amendment of the United States Constitution guaranteeing the right of free speech for all citizens.

Values and attitudes, however, can change over time. Forty years ago in the United States, the role of motherhood as it related to the family's needs was viewed by many to take precedence over the mother's desire to work. This value has changed, despite some resistance, as over 50 percent of women with children under the age of six are active in the workforce. In 1950, the percentage of working mothers was only 12 percent.³

The consumption of alcohol has undergone several changes in terms of societal values and attitudes. In 1919, Prohibition occurred when the Eighteenth Amendment was passed restricting the sale and consumption of alcohol in the United States. Led by the Women's Temperance Union, individuals had the attitude that alcohol consumption led to the decay of people's morals and responsibilities to their families. Fifteen

3. *Capital Times*, Madison, WI (November 14, 1964), 2.

years later, the amendment was repealed as attitudes about alcohol changed, particularly those concerning the ability to enforce the laws effectively. In the past decade, however, there has been a resurgence of concern about the effects of alcohol not only on those who consume, but also on those who do not. Traffic deaths due to drunk driving, health hazards associated with alcohol abuse, and the growing number of alcoholics have led to greater efforts to restrict its use. Hence, societal values and attitudes concerning alcohol consumption have shifted back and forth from acceptance to nonacceptance.

Naturally, these shifts in values and attitudes regarding alcohol consumption have had direct repercussions on the operations of organizations that manufacture alcoholic substances. During Prohibition, many breweries and distilleries were either forced into bankruptcy or required to manufacture nonalcoholic beverages. With the end to Prohibition, producers of alcoholic beverages reappeared. Recently, in response to the growing concern about alcohol consumption, producers have provided public service messages cautioning consumers about the dangers of overconsumption and have modified their products by introducing beverages that are lower in alcohol. Hence, some organizations will be directly affected by the nature and changes in values and attitudes. Other organizations, such as the manufacturer of ball bearings, may feel no effect from changes in the social domain of the environment.

Societal norms refer to common standards of behavior by members of a society. Norms may be the product of values, attitudes, customs, religious teachings, or tradition. Forty years ago, it was a common norm for men attending sporting events, such as baseball or football games, to wear a suit and tie. In many ballparks today, this practice is more likely to draw stares from spectators in the stands. Norms also affect the way we speak or behave in the presence of friends, relatives, recent acquaintances, or supervisors. Managers who fail to understand regional or societal norms may become less effective if they are in open violation of those norms. Hence, management must be sensitive to norms and their changes in order to modify their practices.

Demographic elements are represented by aggregate characteristics of the population. The United States Bureau of the Census collects countless measures of population characteristics in order to identify shifts in the population and assists organizations in their forecast of future trends. The dramatic population growth of the postwar years of 1946 to 1962 has had a major impact on organizations as the baby boom generation has matured. Manufacturers of baby food, clothing, and toys first enjoyed a tremendous increase in sales only to then suffer a precipitous decrease in sales as this segment of the population moved into their teens by the sixties. Similarly, record companies, the automobile industry, and clothing manufacturers all experienced growth during the sixties due to the consumption patterns of the baby boomers who were moving through their teen years into adulthood. In the seventies, home construction firms

Changing values
and attitudes
within society
are reflected in
our living
patterns.



and companies catering to weddings received economic advantages from this generation. Businesses in the 1980s who benefited from the consumption patterns of the maturing baby boomers were those associated with high technology, health, and travel. The 1990s will perhaps be prosperous for organizations that provide medical goods and services and products associated with status.

Demographics are important in other ways as well. They provide information about living patterns, the composition of the work force, migrations to new regions, levels of education, and wealth. Organizational managers who are able to interpret these trends successfully will be at an advantage in making organizational decisions about entering new markets, producing or eliminating products, and staffing the organization with essential human resources.

AT&T was forced to be responsive to elements in the social domain by assessing patterns of behavior and composition of consumers. This contributed to its decision to move not only into data processing for business but computers for home use as well. In addition, AT&T will have to identify the demand for long-distance calling based on various regions in the country. Some regions with greater numbers of corporate headquarters, such as the Northeast, will require more emphasis on business usage. Concern in the Southwest will be over growth in long-distance usage as the population expands in this region due to migration. Decisions will have to be made about usage patterns based on demographics as well as on norms, values, and attitudes in each region.

Technological Domain. The technological domain, or technology, refers to the application of knowledge to the production and distribution of goods and services, and is often viewed as a major source of environmental change for an organization. Technology can consist of both invention and innovation. **Invention** is the creation of a new product or service. **Innovation** is the modification of a product or service. Invention and innovation can occur at different rates as can their transfer throughout the environment. For instance, the application of silicon to computer chips which replaced transistors as the medium for storing information is an example of invention. The modification, or innovation, of a silicon chip is characterized by increasing the capacity of the chip to contain greater amounts of information. Similarly, the creation of a motorized vehicle (e.g., automobile) was an invention whereas increasing the miles per gallon of the engine is an innovation.

Technology transfer involves the application of an invention or innovation to products or services either within or between industries. Oftentimes, invention or innovation is restricted to the product or service in which the change was intended. However, inventions or innovations can also be applied to products or services for which the change was unintended. The National Aeronautics and Space Administration was instrumental in the invention of a substance that would function under intense heat. The invention of this substance was necessary to protect spacecraft from burning up upon reentry into the earth's atmosphere. An unintended application of this invention was the use of the substance in cookware for both oven and microwave heat. The product is now referred to as "Pyrex" and has led to numerous innovations in its application within this industry.

The rate of invention and innovation varies by industry. Coal mining and the manufacture of farm machinery have low rates of invention and only minor innovation. On the other hand, inventions due to the application of bioengineering techniques have had impacts on medicine, agricultural production, and veterinary science and occur at a rapid rate. While this suggests that some industries and organizations will have to deal with technological factors in their environment more than will others, it should not be assumed that technology can be completely ignored. Regardless of the industry, there is always the risk that competitors will invent or innovate a product which will make an organization's product obsolete—perhaps overnight. Examples include organizations that produced typewriters without recognizing or monitoring developments in the computer industry, the application of plastics for manufacturers of shaving razors and pens (which were previously manufactured with steel containers), and wristwatches where the introduction of small batteries replaced watches using windup mechanisms.

AT&T, through careful monitoring of technological trends, was able to identify the technological factors that would have the greatest impact on communication. As a result, management developed Bell Lab-

oratories and hired individuals to conduct research specifically in the development and application of inventions and innovations in the transfer of information. It also led management to the realization that it had the skills and resources which would enable the company to compete in the computer industry, thus facilitating a shift in activity after the break-up of the company in 1984.

Competitive Domain. We often think of the competitive domain, or competition, as primarily an economic element in an organization's environment. Indeed, competition is a strong influence on the economic activity of an organization and it often requires managers to make economic decisions (e.g., price of the product]. However, competition needs to be considered beyond its economic implications.

Organizations can be confronted with a wide variety of competitive conditions in their environment. Some large organizations only compete with small organizations—oftentimes giving them the advantage in the pricing of their products. Other competitive conditions can be characterized by different mixes in strategies that competitors pursue. For instance, a firm that produces 40 varieties of soup may have to compete with other firms producing similar varieties of soup as well as firms that may produce one or only a few kinds of soup. Competition for sales of soup may also differ in the areas of packaging, form of the product (wet versus dry soup), or in the varieties of cuisine (e.g., Oriental, European, Spanish].

Within a capitalist system, organizations can operate in one of four competitive market structures: monopoly, oligopoly, monopolistic competition, and perfect competition. A **monopoly** exists when an organization has sole access to a market to provide its goods and services. Within a monopoly situation, competitors either have been restricted from access to customers or competitors voluntarily choose not to compete in the market. Restrictions to markets may occur when regulatory agencies or governments grant a single organization rights to provide a good or service in the market. Utility companies are the most common form of organization operating under monopoly conditions. However, many governmental agencies, such as police departments, sanitation services, public schools, and transportation services also operate under monopoly conditions that are purposely restricted by legal sanctions. Monopolies also can exist where competitors have chosen not to compete with a single firm operating in the market. Daily newspapers in many towns and cities are a case in point.

An **oligopoly** exists when only a few firms are in competition to provide goods and services to a market. The number of firms producing a good or service is so small that actions by any individual firm in the industry with respect to price, output, product style or quality, and terms of sale have a perceptible impact on the sales of other firms in the industry. The goods or services that are produced by oligopolists may be homo-

geneous, as in the cases of basic steel, aluminum, and cement, or may be differentiated as in the cases of automobiles, cigarettes, home appliances, soaps, and detergents.

Monopolistic competition exists when many firms offer a similar good or service with only minor price differentials. Customers may recognize that the purchase price of a sport coat is \$5 cheaper at another shopping mall, but may elect to spend the extra amount in order to avoid having to drive across town. Gasoline stations operate under conditions of monopolistic competition as price differentials are often minor (\$.01 to \$.05 price variations for most retail sellers of gasoline), and the extra amount is willingly spent by the customer. Indeed, most organizations that provide a specialized good or service operate under monopolistic competition. While small price differentials may have little effect on volume sales, managers must be sensitive to large discrepancies in price as many customers may opt to absorb the inconvenience or extra expense to obtain a cheaper price. Oftentimes, managers attempt to respond to price discrepancies by marketing their products as unique (e.g., gel toothpaste) or by offering more pleasant surroundings (e.g., carpeting in a grocery store).

Perfect competition exists where many organizations offer essentially the same good or service. Price becomes the primary discriminator for the customer who is presumed to have full knowledge of price differentials and a desire to purchase the good or service at the cheapest available price. While perfect competition is rare in most industrial or production sectors, some sectors come close to meeting the conditions of perfect competition. The markets for many agricultural commodities, such as wheat, operate much like perfect competition. One farmer's produce is essentially like any other farmer's produce. If a farmer chooses to demand a price for wheat higher than that of other farmers, it is unlikely that buyers would elect to purchase the wheat when the same product can be obtained at a cheaper price.

AT&T represents a company that had a notable change in factors and components in the competitive domain due to its breakup. Previously, it operated in a monopolistic market structure with noncompetitive conditions to provide phone service throughout the nation. With deregulation, the company was forced into a market of monopolistic competition, having to compete with MCI, Sprint, Allnet, and numerous other companies that provide long-distance communication services. Many economists are predicting that over time, some competitors will leave the industry either due to bankruptcy or voluntary exits which will change the market structure to an oligopoly. Naturally, AT&T's management will try to avoid either of these two consequences. The challenge to AT&T management, however, is whether it can effectively identify the changes in factors and components in its competitive domain and make the proper organizational adjustments.

Physical Domain. All organizations must respond in some manner to elements in their physical domain, or environment. Weather conditions, for instance, may operate as either factors or components for an organization. Airlines must be sensitive to the location and movement of hurricanes in the Southeastern United States when scheduling air traffic service on routes from Miami to New York. Construction companies in the upper Midwest must schedule their activities to avoid construction of roads or homes during harsh winter months. Electric utilities must monitor both the heat and cold to make adjustments in the volume of electricity that must be generated to provide heat or air conditioning to customers. And orange growers must make decisions about when and if the fruit is to be harvested when frost warnings are issued.

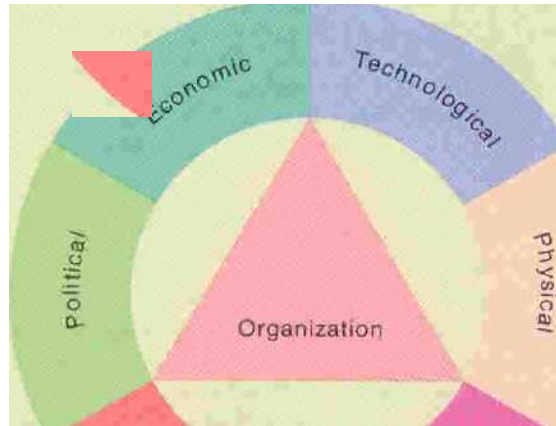
Many organizations, due to the type of good or service they provide, are relatively immune from elements in the physical domain. Financial securities companies that do most of their trading on Wall Street will rarely find their activities disrupted due to weather conditions. However, on September 27, 1985, hurricane Gloria hit New York City, preventing members of the Wall Street Exchange from arriving at work. This resulted in an uncommon closing of the stock and bonds market. As a result, many financial securities companies were forced to close as well. For many, this resulted in a large loss of profit due to the absence of sales commissions that would have normally been obtained.

AT&T is also sensitive to its physical domain. Earthquakes, tornados, freezing rain, and hurricanes each have the potential to destroy communication channels to regions of the country that are affected by these acts of nature. The curtailment of communication lines also affects organizations, such as the Red Cross and local disaster relief agencies, from responding quickly to the needs of individuals who have suffered from such events. Hence, the management of AT&T must be responsive to such events and must do so by monitoring weather conditions and training employees to respond to the destruction of communication lines.

While AT&T represents an organization that has factors residing in each of the environmental domains (see Figure 4-4), this is not the case for many organizations. Some organizations may have factors in only one or two domains. A dry-cleaning business operating in a small town may be affected only by weather conditions (greater amounts of cold weather usually increase the demand for dry-cleaning services). Political, economic, social, competitive, and technological domains may have virtually no impact on the operation of the dry-cleaning business. While this may be the case, a manager of a dry-cleaning business must still be wary of changes in these domains as new methods of cleaning, laws concerning liability, new competition, or changes in customer life-styles may be introduced into the business environment at any time.

An understanding of the various domains that may impinge on an organization is useful for managers in order to categorize environmental elements that either have or do not have consequences on the operation

Figure 4-4

ENVIRONMENTAL DOMAINS
ORGANIZATION

r

of their organization. However, to fully understand the relationships between an organization and its environment, we need to specify the elements along several dimensions.

Environmental Dimensions

Six environmental dimensions depict the manner in which factors are arranged within the domains of the organization's environment. The six dimensions are munificence, dynamism, complexity, concentration, turbulence, and consensus.⁴ Managers of organizations must not only be able to identify environmental factors in order to be effective, but must also understand the arrangement of factors in order to make correct decisions.

Munificence. The munificence of an organization's environment refers to the level of resources available to an organization. The

4. For an extended discussion of these dimensions and their application to organization theory, see Chapter 3 of H. E. Aldrich, *Organizations and Environments* (Englewood Cliffs, NJ: Prentice-Hall, 1979]

FROM THE FIELD: Environmental Domains

In early 1986, we surveyed corporate planners from a wide variety of industries to learn what environmental domains they felt were most important in forecasting trends. We asked each planner, "How would you rate each of the following environmental domains in terms of overall importance to your organization?" Planners rated each domain on a scale of 1 to 5, with possible responses including 1 (very unimportant), 3 (neither important nor unimportant), and 5 (very important). Here are the results, ranked from most important to least important.

Rank	Environmental Domain	Average Rating
1	Competitive	4.91
	Economic	4.45
2	Technological	3.79
	Social	3.44
3	Political	3.23
4	Physical	3.18
5		
6		

These results indicate that planners responding to the survey see all six environmental domains as having some importance to their forecasting of trends. Not very surprising is the fact that factors located in the competitive and economic domains are most important. This, of course, is probably attributable to the fact that all the planners are employed by for-profit firms. The results might be different if planners from the public sector or not-for-profit organizations had been included in the survey.

degree of munificence may range from rich to lean. Rich environments usually exist where resources are plentiful. However, a rich resource environment tends to attract other organizations and, over time, environments will move from rich to lean. As such, rich resource environments usually exist in early stages of industry development or under conditions of monopoly market structure.

When environments become lean, organizations are required to engage in several tactics in order to survive. Stockpiling through inventory, cutthroat competitive practices, and greater efficiency in the use of resources are all tactics that will increase the probability of the organization surviving. Organizations unable to adapt to lean environments are faced with two prospects—failure, or movement to a richer resource environment by changing their product, market, or both.

For instance, a lumber mill in the Pacific Northwest at the turn of the century would have found resources, or trees, in plentiful supply. Over time, however, the number of trees to be converted to lumber would diminish, moving the resource environment of the lumber mill from rich to lean. In addition, other lumber mills located in the region made the supply of trees even more scarce.

How did lumber mills respond to this situation? Many discovered ways to be more efficient in the location and cutting of timber. As more competitors moved into the region, competitive pricing of timber became more intense. Many lumber mills created large warehouses for the storage of lumber to insure that they would have adequate supplies. Some lumber mills moved to other regions where timber supplies were richer. Others simply failed. And, of course, firms in the lumber industry recognize the importance of reseeding the forest in order to generate richer supplies for the future.

Dynamism. Dynamism refers to the degree of turnover in environmental factors. A low degree of turnover of factors creates a stable environment. A high degree in turnover of factors creates an unstable environment. A stable environment allows organizational members to follow routine procedures for obtaining resources and distributing goods or services to the market. Generally, a stable environment will reward organizations which have been operating the longest amount of time. The longer an organization operates under stable environmental conditions, the more managers learn and thus are able to reduce the number of mistakes. Under conditions of environmental instability, organization managers must constantly adjust their activities in order to adapt to new conditions. As a result, efficiency is problematic because the techniques learned and applied last year may no longer be appropriate in the current year.

Many manufacturers of children's toys find themselves in unstable environments. Each year, the type of toys children demand will change. One year, it may be Cabbage Patch dolls; the next year, it may be Masters of the Universe dolls. Because most toys are sold during the holiday season, manufacturers of toys must begin speculating in early spring as to what toys will be in demand [to give adequate lead time for the design and production processes). Needless to say, failing to predict correctly in March what toys children want in December can make the difference between a profitable and an unprofitable year for the company.

While many firms operating in so-called "fad" industries (e.g., toys, fashion clothing, records) are considered to be operating in an unstable environment, firms in other industries must deal with instability as well. Airlines (price of fuel, deregulation), banks (prime rates, inflation), and farming (weather conditions, government policies) are just a few examples. On the other hand, manufacturers of containers or salt producers, both of which have a steady demand for their products as well as a steady supply of necessary resources, are examples of stable industries.

Complexity. Complexity is the degree of similarity or diversity between the factors in an organization's environment. When factors are similar, the environment is referred to as homogeneous. When factors are diverse, the environment is referred to as heterogeneous. Organizations

operating in environments that are homogeneous can specialize in producing one good or service to be distributed to the market. Homogeneous environments also allow an organization to simplify its operations as the knowledge and skills required of managers and workers are related to one product. Heterogeneous environments, however, require an organization to provide diverse products and services to the market. Managers, therefore, must be knowledgeable in many areas and develop multiple skills in order to be effective. Generally, when organizations expand their market, they move to a more heterogeneous environment.

Hospitals operate in a heterogeneous environment. Providing health care to patients requires the use of multiple skills and techniques depending on whether patients need diagnostic services, surgery, or treatment for diseases. Additionally, many hospitals are providing patients with "wellness" programs including exercise, health seminars, and rehabilitation. Hospitals are responding not only to complexity among patients, but also to a wide range of regulations, economic conditions, and diverse technologies. In contrast, many chiropractic clinics operate in a relatively homogeneous environment by offering one service to their patients.

Concentration. Concentration, the degree to which factors are dispersed over the range of the environment or centered in one location, can have differential effects on an organization's activities. Whether factors are concentrated in one or several locations, managers must be able to identify their existence and develop methods for using them. Concentration can reduce transportation costs as members need not travel to multiple locations in order to obtain resources or distribute their goods and services. When factors are dispersed, or evenly distributed in the environment, the cost of learning about those factors increases as does the transportation to and from where the factors are located. Thus, organizations in a concentrated environment will realize greater efficiency in **their** operations than organizations residing in a dispersed environment. Many firms have responded to customer dispersion by providing mail-order services. Sears, of course, developed this idea before the turn of the century through its catalogs. Some companies, such as L.L. Bean and many seed stores, use mail order almost exclusively to reach their customers. On the other hand, political lobbyists spend most of their time in Washington, DC, because that is where most of the political factors are concentrated. Brokerage firms tend to locate in New York City because of the concentration of financial markets. And steel companies prefer to locate in the upper Midwest due to the location of ore **and** labor concentrated in this region.

Turbulence. Turbulence is the extent to which environments are being disturbed by an increasing rate of interconnections between

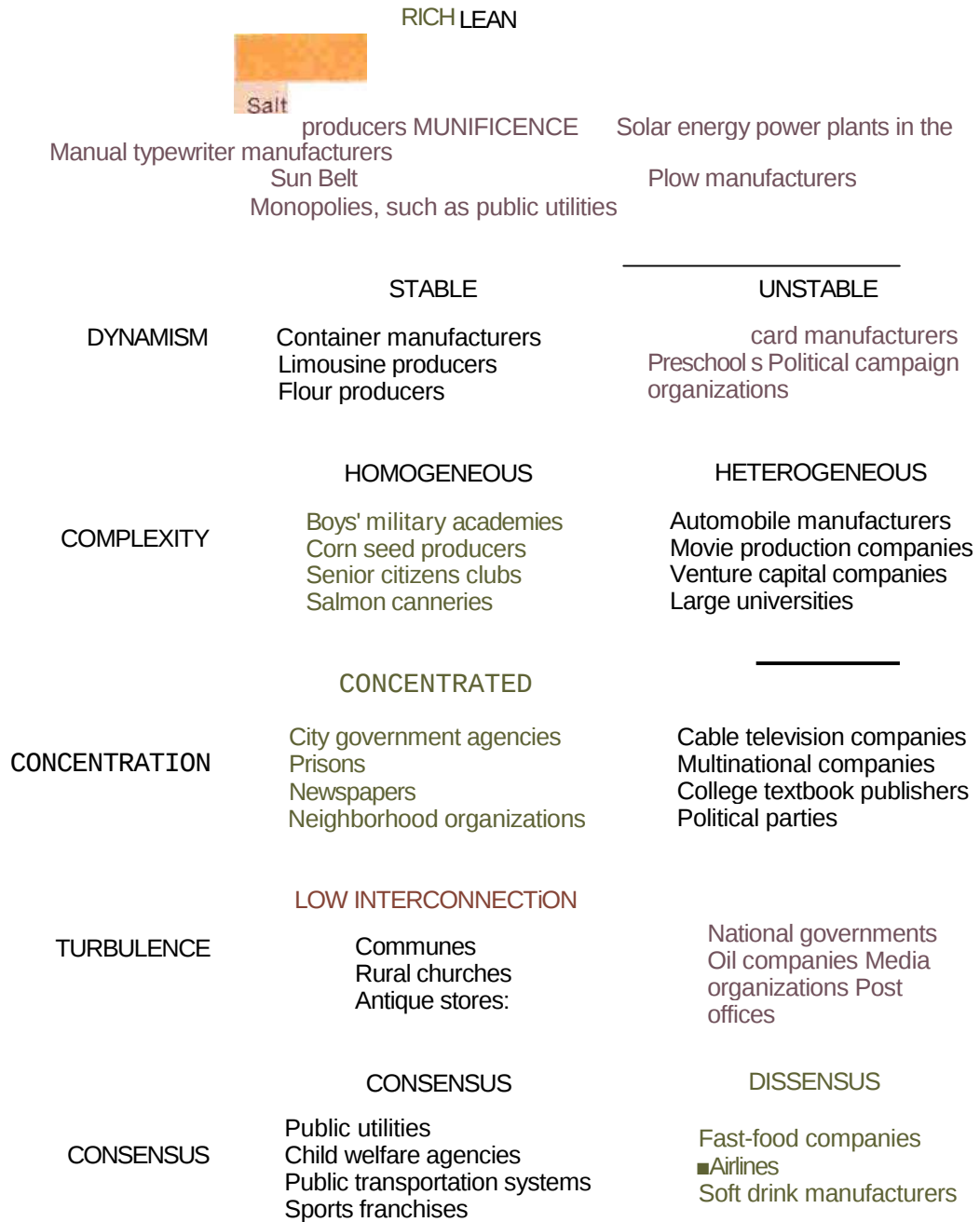
elements. Interconnections result from multiple exchanges between individuals, groups, or organizations. As the rate of interconnection increases in the environment, so also does the probability that organizations must change due to events that appear to be far removed from their operations. For instance, one hundred years ago, business firms in the United States were rarely affected by events in the Middle East. As more exchanges were made between governments, energy firms, and defense contractors with nations in this region, events in the Middle East had greater impact on firms in this country. Chain motels, such as Holiday Inns, for example, were greatly affected by rising oil prices, largely due to disruptions in the exchanges between nations. As the price of gas increased, the number of family vacations decreased. When turbulence increases in the environment, organizations increasingly must alter their operations in order to adapt to conditions that arise from elements far removed from their market.

Consensus. Consensus refers to the degree to which an organization's claim to a specific domain is recognized or disputed by other organizations. Favorable recognition of an organization's domain by other organizations suggests that consensus exists. However, when the domain is disputed, the environment is in a state of dissensus. The very nature of private enterprise involves domain consensus, as profit organizations in competition are engaged in activities where domains are being contested. However, many business firms do seek to achieve consensus by encouraging protective legislation such as import quotas, tariffs, and licensing.

In the nonprofit sector, many social service agencies, such as Planned Parenthood, strive to establish their domain by offering a unique service in the community. Consensus occurs when other organizations recognize the need for such service and are willing to provide support to assist the agency in achieving its goals. Indeed, in many communities, United Way serves as a major determinant of consensus simply by designating which agencies are to receive funds and discouraging other agencies from providing duplicate services.

Each of the environmental dimensions addresses how factors can be organized and located in respect to the organization. Managers need to understand not only where an organization is located on each dimension, but the direction in which the organization is moving along the dimension. For instance, an organization in a rich environment benefits from plentiful supplies of resources. Managers, however, must recognize that if the environment shifts to lean resources due to increased competition, different tactics will have to be pursued in order to obtain future resources. Figure 4-5 displays the six environmental dimensions and identifies organizations that are likely to reside on either extreme of the dimension.

Figure 4-5 * ORGANIZATIONS AND THEIR ENVIRONMENTAL DIMENSIONS



FROM THE FIELD: Market Trends

In early 1986, we surveyed marketing and sales executives from a wide variety of industries to learn what direction trends in their markets were taking. We asked each executive to identify the term that was most accurate for describing market trends in his or her industry. You will note that each question is designed to measure the environmental dimensions discussed in the chapter, with the exceptions of consensus and turbulence. See if you can identify which question is designed to measure which dimension. Numbers in parentheses are the percent of executives who identified the term that described market trends for their companies.

1. The number of competitors is *decreasing* (25%) or *increasing* (75%).
2. Consumers want *more* (81%) or *fewer* (19%) varieties of the products we produce.
3. Repeat customers constitute a *small* (13%) or *large* (87%) part of our business.
4. Most of our customers are located in a *few* (22%) or in *many* (78%) regions of the country.

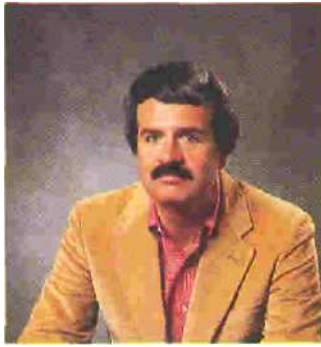
If you associated Measure 1 with munificence, Measure 2 with complexity, Measure 3 with dynamism, and Measure 4 with concentration, you were correct. These results suggest that for the majority of firms surveyed, the consumer environment is perhaps lean, complex, stable, and dispersed. However, these questions do not necessarily characterize the total environment of the organizations in which these executives work. Operations, finance, or personnel executives may respond differently to the questions, or they may want to consider factors other than customers and competitors.

ENVIRONMENTAL UNCERTAINTY

Factors and components in the external environment of an organization can be classified into six environmental domains and six environmental dimensions. Both classifications are useful for managers when attempting to understand how the environment influences their organization. However, some environmental conditions are easier to understand and predict than others. Until now, we have described the environment in its objective condition—objective in the sense that any manager examining the same environment should arrive at the same conclusion as to what domains the factors are located in and where the organization resides within the environmental dimensions. This can be accomplished if all managers have full information about the environment. However, managers rarely have the opportunity to make judgments based on total information. Indeed, much information about the environment may be absent or erroneous. Hence, many environmental evaluations are subjective and lead to disagreements among managers as to the true condition of the environment.

Academic Profile

GREGORY G. DESS



Gregory G. Dess [Ph.D., University of Washington] is Associate Professor of Business Administration at the Florida State University in Tallahassee. Professor Dess's teaching and research interests include the study of organization-environment relationships, executive decision-making processes, and the analysis of strategy variables contributing to organizational performance. His research has been published in *Administrative Science Quarterly*, *Academy of Management Journal*, *Academy of Management Review*, and *Strategic Management Journal*. He is a consultant to many organizations in the public and private sectors. Prior to his academic career, Professor Dess was a planning engineer for Western Electric Company, Inc., in Atlanta, Georgia.

Q: Do you find some organizations or industries better equipped than others to handle change in their environments? If so, what would or would not account for this?

A: The ability to anticipate and to respond appropriately to unpredictable environmental change is not equally important in all industries. For example, based on interviews with executives and analysis of industry data, "paints and allied products" is a highly *stable* industry and "electronic computing equipment" is a highly *unstable* industry. Therefore, unpredictable change would be much higher in the latter industry and the ability to cope with uncertainty would be much more important. However, the importance of the ability to cope successfully with unpredictable change varies significantly *within* industries. For example, in the paints and allied products industry, firms which manufactured "high-tech" products such as automobile finishes were required to closely monitor environmental change to keep up to date with important technological changes. Important means to this end included the review of technical publications and active participation in the trade associations such as the National Paint and Coatings Association. On the other hand, firms which manufactured more unsophisticated products such as house paint tended to be less active in trade associations and their executives felt that it was less important to monitor environmental change.

Q: The 1970s and 1980s may well be remembered by future management scholars as a period when organization environments in the United States went from benign to hostile. Would you agree and, if so, how can managers better prepare themselves for these circumstances?

A: Several events have made the environment increasingly hostile for business. Among these were the disillusionment of the American public with our country's involvement in the ill-fated Vietnam War. The OPEC oil crisis occurred in the early 1970s. In the late 1970s and early 1980s, the Reagan administration's emphasis on free trade and deregulation in many industries, such as trucking, airlines, and steel, has intensified competition. In the airline industry, for example, of the 36 certified airlines in the air before the industry was deregulated in 1978, only 24 were still flying as of early 1986. At the same time, a couple of hundred airlines have been burned, most of them regional carriers.

To cope with a more "hostile" environment, managers must recognize that although no two organizations face exactly the same environment, it is very important to monitor and react appropriately to factors that impact on competition in their industry. Also, managers need to realize problems associated with being overzealous in adopting "quick fixes" and "fads" in their organizations. Strategies, structures, and resource allocations that are appropriate for some firms may not be appropriate for others.

I believe that future managers must recognize that the "law of requisite variety" applies to management education. That is, an increasingly complex and sophisticated profession necessitates a more complex and sophisticated educational experience. Students of management should avoid focusing solely on their preferred area(s) of expertise in their course of studies. Students must broaden their curriculum with advanced courses in schools outside of business such as the liberal arts and the physical sciences.

When managers do not have information or have incorrect information about environmental factors, they have a difficult time predicting external changes.⁵ When this occurs, managers must make decisions under conditions of uncertainty. As uncertainty increases, so also does *the risk at failure as managers increase the probability of making decisions that harm rather than help the organization*. Five types of managerial uncertainty can lead to poor decisions:⁶

- A Uncertainty regarding information availability, accuracy, and clarity,-
- A Uncertainty regarding cause-effect relationships; A Uncertainty regarding outcome preferences; A Uncertainty deriving from time span of definitive feedback; and A Uncertainty deriving from the inability to assign probabilities to events,

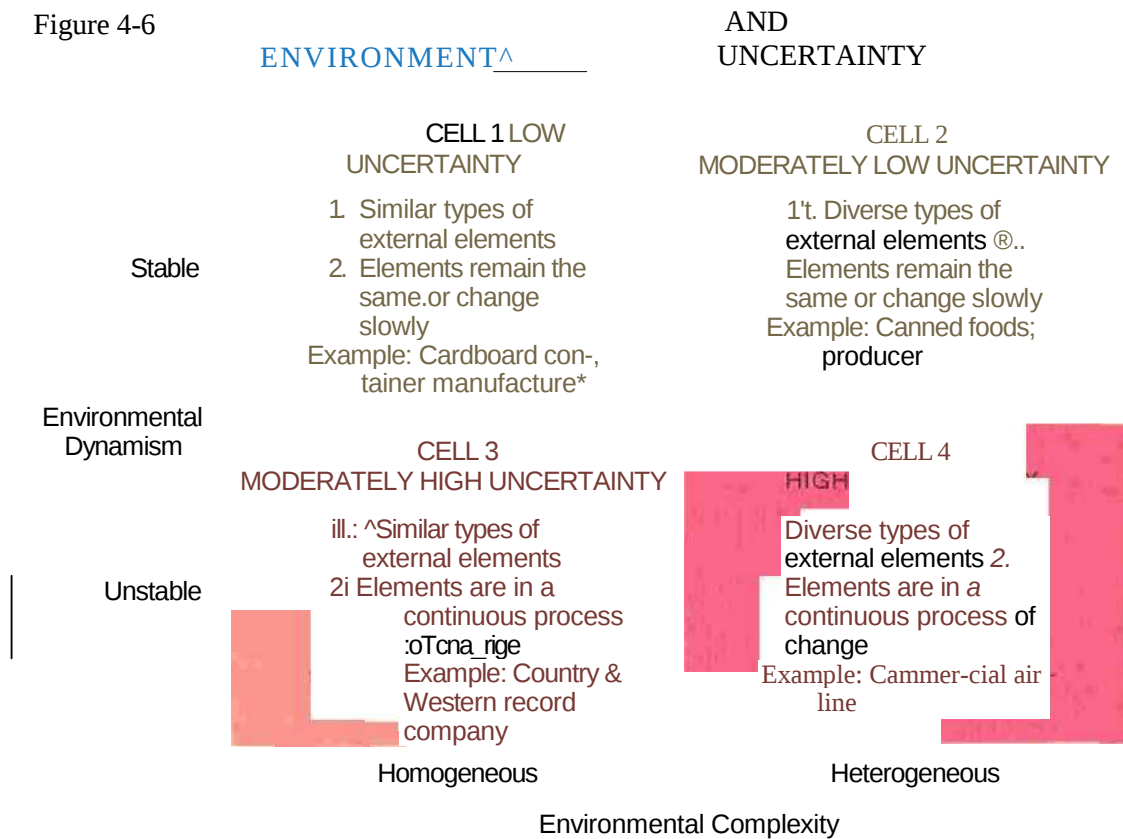
Generally, uncertainty will increase for organizational managers when the environment becomes lean, heterogeneous, unstable, dispersed, turbulent, and is in a state of dissensus. Each of these environmental conditions requires the gathering of more information and thus will generate greater managerial uncertainty if the information is difficult to obtain or unobtainable.

The relationship between uncertainty and two environmental dimensions is displayed in Figure 4-6. Both environmental dynamism and complexity can create managerial uncertainty in different degrees. A manager in an organization which resides in Cell 1, such as A cardboard container manufacturer, should experience low uncertainty because elements are basically similar and stable over time. Managers of organizations in Cell 2 should have moderately low uncertainty in making decisions because the environment is stable, but information varies due to differences in environmental elements. Many companies producing canned foods are situated in this cell because they serve different types of customers, but the demands and needs for products change little over time. Cell 3 environments pose greater uncertainty for organizational managers. Though elements are basically similar, they are changing over time; thus, the uncertainty is moderately high. Companies that produce country music albums are in this cell. The artists are similar as is the method for producing the albums, but the demand for the music fluctuates as does the demand for the performing artists. Managers in Cell 4 face the greatest amount of uncertainty because the elements in the environment are both unstable and complex. AT&T would be situated in this category as would airlines and oil companies.

5. D. f. Hickson et al., "A Strategic Contingencies Theory iii Intraorganizational Power," *Administrative Science Quarterly* 16 (June 1971): 216-29.

6. R. Miles, *Macro Organizational Behavior* [Glenview, IL: Scott, Fortsman & Co., 1980], 199.

Figure 4-6



Source: Adapted, by permission of the publisher, from "What Is the Right Organization Structure? Decision Tree Analysis Provides the Answer" by Robert Duncan, *ORGANIZATIONAL DYNAMICS*, Winter 1979, p. 63, © 1979 AMACOM, a division of American Management Associations, New York. All rights reserved.

Similar four-cell matrixes can be constructed using the other four environmental dimensions with similar results for managerial uncertainty. However, our discussion concerning the relationship between the objective and subjective environment would not be complete without recognizing that what managers perceive to be the environment may not be an accurate assessment of what the environment is objectively. For instance, a manager of an airline may incorrectly perceive the organization to be residing in Cell 1. If so, decisions will be made assuming the environment does not change and all factors are alike. As a result, the manager will believe that the environment is certain when indeed it is highly uncertain. Again, the organization in this situation is more than likely to suffer undue harm which may threaten its survival. Thus, managers cannot afford to ignore the environment nor can they afford to identify incorrectly the dimensions of the environment in which the organization is located.

ORGANIZATIONAL ADAPTATION AND CONTROL

It is evident from our discussion that the environment of an organization has an enormous impact on organizational performance. Of paramount concern to all organizational managers is the attainment of necessary resources and customers from the environment in a timely and efficient manner. The distribution of organizational factors, namely those individuals, groups, or organizations in the environment who purchase the organization's goods or services, provide raw materials, new technologies, capital, labor, information, and competition, will greatly affect the manner in which an organization operates. Managers have opportunities to respond to environmental factors in a variety of ways. Efforts to respond to environmental factors by changing organizational activities are referred to as adaptation. Managers may also elect to control environmental factors by establishing favorable linkages with them or by influencing their activities.

Depending on environmental and organizational circumstances, managers may elect to adapt the organization, control the environment, or both. Generally, the choice to adapt or control the environment will vary by the domains in which the factors are located. For instance, a manufacturer of shoes may adapt to customer demands for style by collecting information about consumer tastes in footwear. At the same time, the firm may be active in lobbying Congress to restrict the import of shoes from manufacturers overseas. The next section describes approaches organizational managers can pursue as a response to their environment.

Organizational Adaptation

Organizational adaptation implies that part or all of the organization is transformed in order to make its activities more compatible with existing environmental conditions. Generally, the greater the amount of uncertainty emanating from the environment, the greater the need for managers to seek a variety of ways to adapt the organization.

One way to identify the various techniques that managers can apply to the organization in order to adapt it to the environment has been presented by James Thompson.⁷ Thompson believed that for an organization to be successful when the environment is uncertain, managers must develop strategies and structures to protect the organization's technical core. The **technical core** constitutes an organization's internal operations

7. J. D. Thompson, *Organizations in Action* (New York: McGraw-Hill Book Co., 1967), 20-21.

which must be conducted in a predictable and orderly manner to be efficient. Thus, mechanisms must be established that will "seal off" the technical core from environmental elements that may potentially disrupt the internal operations of the organization. Thompson referred to these mechanisms as **coping strategies** in that they are designed to "cope" with uncertainties produced by elements in the external environment. The five coping strategies identified by Thompson are buffering, smoothing, forecasting, rationing, and boundary spanning. In addition, the concepts of structural complexity and managerial succession also can be used to describe methods in which managers adapt their organizations to the environment.

Buffering. Organizations can absorb and cope with environmental uncertainty through **buffering**, that is, by establishing buffers for both the input and output sides of organizational activities. Buffers may be departments or programs designed to prevent environmental factors from upsetting the smooth functioning of the production process. On the input side, this may be achieved by stockpiling inventories so that they can be provided to the production unit at a steady and predictable rate, regardless of fluctuations in resource availability. Restaurants, for instance, may buffer the production of meals by purchasing and preserving large quantities of produce grown seasonally. Other buffering techniques may be training programs for new members to familiarize them with the norms and behaviors of the organization.

On the output side, organizations may choose to "dump" their goods or services in markets to prevent the stoppage of activities in production. For instance, Japanese steel companies have been accused of "dumping" (i.e., selling a good or service at prices below production costs) steel in the United States to avoid carrying inventory costs on finished goods and causing a drop in the price of steel in markets in their own country. Similarly, the United States has been accused of dumping excess grain into foreign markets for the same reason. To distribute the grain in the United States would drive the price of grain down and therefore create unpredictable economic patterns in the commodities market. As a result, many farmers would face bankruptcy, thus affecting their technical core in the severest manner. Figure 4-7 shows how various departments of an organization can be viewed as buffers to the production process.

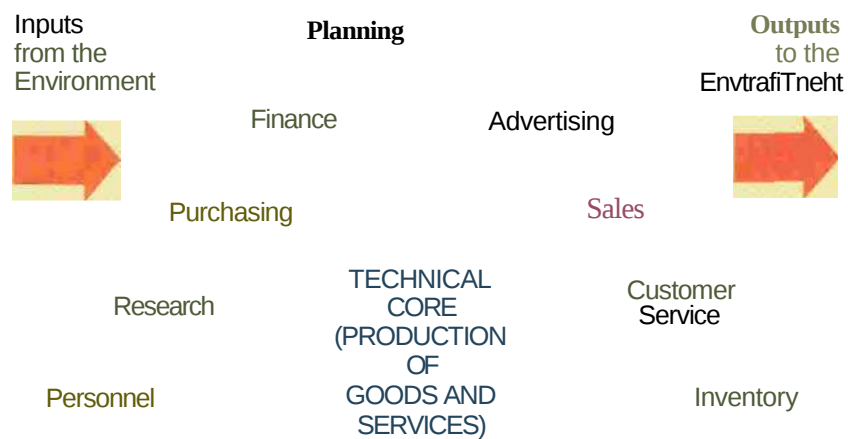
Smoothing. Organizations that confront fluctuations in the demand for their good or service can cope by adjusting their operations to anticipated changes in demand. Whereas buffering absorbs environmental fluctuations, **smoothing**, or **leveling**, involves attempts to reduce fluctuations in the environment.⁸ Offering reduced rates for long-distance

8. *Ibid.*, 21.

phone service after 11:00 p.m. serves to decrease demand during peak day hours and shift the demand to a period when demand is normally low. Discounting airline fares in October when vacation travel is low also represents an effort to smooth demand.

Forecasting. When environmental fluctuations cannot be countered effectively by buffering or smoothing, organizations can become actively involved in forecasting in order to anticipate changes in the environment. **Forecasting** is the collection of past and current information in order to make predictions about the future. Financial institutions collect economic data in order to predict the future direction of financial markets. Heublein, Inc., the manufacturer of A-1 steak sauce, anticipates future sales based on the price of grain in the commodities market. When the price of grain rises, more cattle are slaughtered for beef to avoid the high cost of feed. The increase in slaughtered cattle leads to a lower cost of beef and an increase in consumption. This, in turn, increases the sales of steak sauce. On the other hand, while the immediate effect is more beef consumption, increased slaughter of cattle also reduces the number of cows producing calves. This eventually leads to a shortage in beef and thus less consumption. Hence, Heublein must follow the price of grain in order to determine how much steak sauce to manufacture based on this cyclical process.

OKGANIZATtONAL BUFFERS



Rationing. Organizations can also implement coping strategies that are designed to preserve the most critical functions of the technical core. **Rationing** takes place when organizations ignore some operations and emphasize others. The United States Postal Service will at times ration its activities during high-volume periods. Hence, first-class mail receives greater attention at the expense of second- and third-class mail. Thus, third-class mail will take a longer time than usual to reach its destination when rationing takes place.

Boundary Spanning. Boundary spanning is the process in which the organization creates roles to establish links and coordinate activities with factors in the environment. The creation of such roles serves to reduce uncertainty as boundary spanners gather and collect vital information which can be used for planning purposes in the technical core. The information can be used further to develop mechanisms for adapting the organization to anticipated changes in the environment.

Personnel in strategic planning or market research departments serve as boundary spanners. They attempt to detect and process information about changes in the external environment and channel that information to organization personnel. In addition, boundary spanners represent the organization to others in the environment.⁹ As representatives, boundary spanners provide information about the organization and thus are able to develop more awareness about organizational activities among environmental elements. As a result, boundary-spanning activities can serve to reduce environmental uncertainty.

Structural Complexity. A sixth mechanism that managers can use for coping with environmental uncertainty is structural complexity. While Thompson did not make explicit reference to structural complexity as a coping strategy, it is largely recognized as a critical mechanism by which organizations adapt to environmental uncertainty.¹⁰ Indeed, Thompson's mechanisms as described can be subsumed under structural complexity. As open systems, most organizations confronted with environmental complexity must adapt to various domains of the environment. Organizations can do so by establishing departments that focus on specific domains: marketing departments with consumer demands; accounting departments with economic considerations; and production departments with technological developments. Hence, the more complex the environment, the greater the need for the organization to adapt by establishing departments (or subsystems) that will respond to specific groupings of factors. Alteration of an organization's structure as a method

9. H. Aldrich and D. Hcrker, "Boundary-Spanning Roles and Organization Structure," *Academy of Management Review* 1 [1977]: 217-30.

10. See T. Burns and G. M. Stalker, *The Management of Innovation* [London: Tavistock, 1961]; and P. R. Lawrence and), W. Lorsch, *Organization and Environment* [Cambridge, MA: Harvard University Division of Research, 1967];

Establishing departments is one way an organization can adapt to a complex environment.



of adaptation to the environment will receive further discussion in Chapters 8 and 11.

Managerial Succession. Organizations may attempt to adapt to environmental uncertainty through top managerial succession. Managerial succession, or turnover, in top management, enables an organization to hire managers with new energy and vitality in addition to the specific skills needed to analyze and respond to the environment. Increased financial uncertainty in an organization's environment, for instance, may lead to preference for a chief executive officer with financial training. Many large corporations purposely seek executives in their mid-fifties, knowing that tenure in the job is limited to a decade, after which new executives can be hired to replace the retiring executives.¹¹ Hence, organizations can avoid stagnation due to executive officers occupying key decision positions for lengthy periods of time.

The selection of an adaptive mechanism in order to make the organization more compatible with environmental uncertainty can have critical consequences on the organization's performance. Organizations also have an additional response to environmental uncertainty. This is achieved through controlling environmental factors either by (1) establishing linkages with key organizations in the environment, or (2) manipulating the environmental domain which the organization wishes to control.

11. See O. Grusky, "Corporate Size, Bureaucratization, and Managerial Succession," *American journal of Sociology* 67 (November 1961): 355-59.

Environmental Control

Environmental control requires management to identify and seek to manipulate environmental factors in order to obtain more positive effects on organizational activities. Adaptation, on the other hand, requires management to alter organizational activities in order to coincide with environmental factors. Buffering, smoothing, forecasting, rationing, boundary spanning, structural complexity, and managerial succession are all coping strategies that enable the organization to adjust to environmental factors.

Managers, however, can choose to implement techniques that will serve to change and control the relationship an organization has with environmental factors and thus reduce uncertainty. Two categories of control methods are (1) establishing favorable linkages, and (2) manipulating environmental domains.¹²

Establishing Favorable Linkages. Five methods for establishing favorable linkages to reduce environmental uncertainty can be invoked by organization managers.

Mergers, A merger, or the acquisition of another organization, can be a method for controlling the environment when the purchased firm is producing uncertainty in the environment. For instance, if a supplier of raw materials is erratic in its shipments to the manufacturer or retailer, managers may elect to purchase the company in order to guarantee a stable flow of materials. Sears has used this technique extensively by purchasing not only raw material suppliers such as Kenmore appliances, but also companies that provide direct service to customers, as in the case of Coldwell Banker Real Estate Group, Inc.

Joint Ventures. **Joint ventures** are used by many companies to reduce environmental uncertainty by forming a legal relationship to jointly produce a good or service. Management of General Motors, experiencing uncertainty due to the inability to forecast Japanese auto sales in this country, made a decision to jointly produce a car with Toyota. This enabled General Motors to become more involved in the sales of Japanese-style cars.

Interlocking Directorates. Managers can expand their board of directors to include influential members of the community or individuals working

12. See J. P. Rotter, "Managing External Dependence," *Academy of Management Review* 4 [January 1979]: 87-92.

in a specific domain that is generating uncertainty. This is known as interlocking directorates. Many firms appoint bank officers to their board of directors in order to obtain information about economic conditions and to receive greater access to funds. Or individuals may be appointed to a board because they serve on boards of competitor suppliers, or organizations that distribute their goods to customers.

Executive Recruitment. Hiring executives with prior experience in other industries is another mechanism that can be used to establish favorable linkages in the environment. Career executives from industries where the organization needs extensive information can be vital in the competition for contracts. Many firms which depend on government contracts hire administrators from government agencies in order to learn about the decision process. This also provides the firms with access to the former administrators' friends who may still reside in the contracting agencies. Executive recruitment is different from executive succession in that recruitment, is an effort to strengthen linkages with important elements in an organization's environment, whereas succession is an adaptive mechanism designed to obtain executives who have skills and information concerning the organization's environment.

Advertising. Advertising can be used to attract customers and/or cast the organization in a favorable light. Hallmark Cards, for instance, not only produces advertisements to sell greeting cards, but also funds and produces many television programs in order to gain goodwill from the public. Hence, Hallmark is able to increase sales of greeting cards as well as enhance its image in the minds of the general public. Advertising serves to link the organization's goods or services to customers by promoting a favorable image.

Manipulating the Environment. Three tactics can be pursued by organizations seeking to manipulate the environment in which they operate: change domains, lobby, and form trade associations.

Change Domains. Organizations may seek to manipulate their environment by changing one or more of the six domains in which they operate. Usually, this involves a change in markets or the addition of a product line. Generally, organization managers try to locate markets that have weak competition and are rich in resources. By entering a new domain, the organization can affect current activities in the market in ways that will make the external environment more favorable. For instance, Coca-Cola's main line of business is the production of soft drinks. However the company began changing its competitive domain by expanding its line to include wines (Taylor Wines) and orange juice (Minute Maid). This

change came from a realization that the soft drink industry had become saturated with little opportunity for expansion.

Lobby. Lobbying is the attempt to influence decisions made by governmental agencies or legislators. Lobbying usually requires payment to an individual situated near governmental activities who will express the interests of the organization and how those interests relate to current or proposed legislation. Lobbyists may be employees of the organization or they may be hired by the organization on a part-time or full-time basis. Television networks [ABC, CBS, NBC] not only hire lobbyists to influence decisions made by the industry's regulatory agency (the Federal Communications Commission!), but also locate a corporate vice-president in Washington, DC, to assist in the lobbying effort. Generally, lobbying involves persuading key decision makers to uphold existing laws or implement new laws that will be favorable to the organization. For instance, television networks have persuaded the Federal Communications Commission to maintain strict licensing requirements for television stations in order to reduce competition, have attempted to influence appointments and hirings within the agency, and have tried to change laws that restrict corporate ownership of television stations throughout the country.

Trade Associations. Perhaps the most common form of effort to manipulate the environment is through trade associations, that is, joint membership by organizations in an association that expresses a common interest. Where lobbying is conducted by a single organization as an effort to manipulate the environment, trade associations represent a pooling of resources among organizations with similar concerns. The National Association of Realtors, the National Association of Car Dealers, and the National Educational Association are trade associations actively involved in lobbying agencies and legislators in order to obtain favorable decisions for their membership. However, since multiple interests may be expressed in a large association, trade associations tend to influence government in terms of policy rather than specific actions that affect organizations directly.

Organizations reside in environments that may be beneficial or detrimental to their survival. Environments take many forms, and it is essential that managers recognize the environment's impact on the organization's activities. Managers can choose to implement mechanisms that will adapt the organization to the environment, attempt to influence elements in the environment to make them more responsive to the needs of the organization, or both. In either situation, the ultimate goal of the manager is to reduce environmental uncertainty. As uncertainty decreases, so also should the ability of the manager to implement successful decisions.

INTERORGANIZATIONAL RELATIONSHIPS

Another method for understanding an organization's relationship to its environment is to examine inter organizational relationships. Inter-organizational relationships involve the manner and form by which an organization links itself to other organizations in the environment. Inter-organizational relationships can be examined from two perspectives: the organization set and network. An organization set consists of all the organizations with which a firm establishes exchanges in order to obtain necessary resources and achieve goals. A network includes all the exchange relationships among a group of organizations operating within an environment. The organization set approach is useful to managers interested in understanding their organization's relationship with other organizations, while the network approach is useful for understanding the way organizations in a particular industry exchange resources and goods.

Organization Set

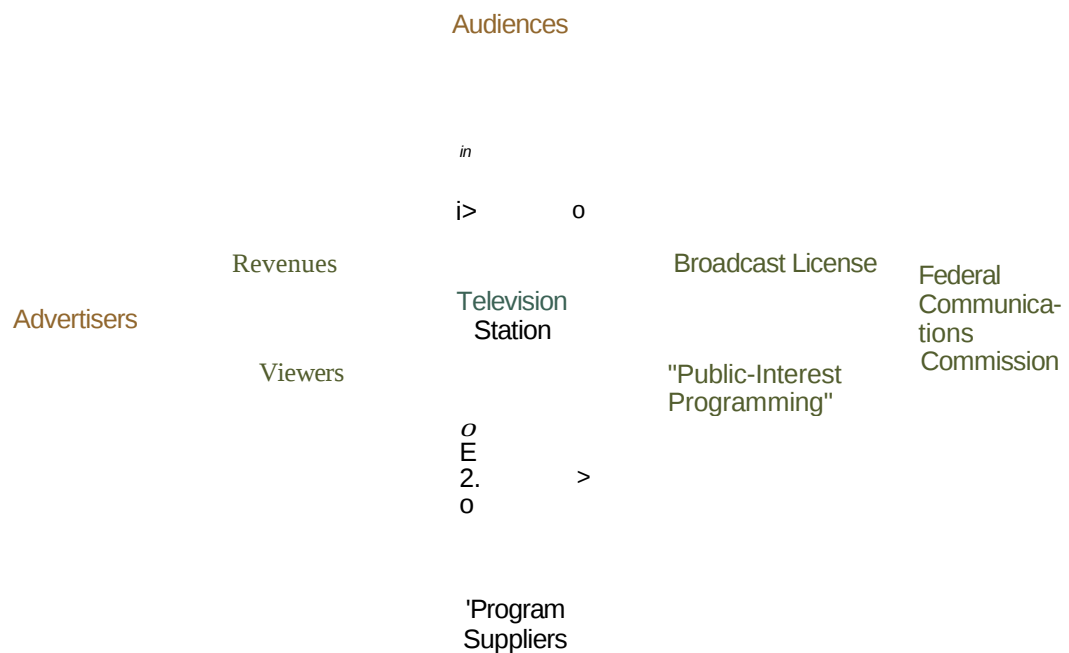
Organizations enter into exchange relationships with other organizations because they need to acquire the necessary resources to perform their activities. Auto manufacturers purchase steel from steel companies, cars are sold in volume to car rental agencies; links are established with the Environmental Protection Agency to determine levels of emitted pollutantS; and contracts are made with the United Auto Workers to purchase labor, with rubber and tire manufacturers to obtain specified wheel sizes, and with accounting firms to determine the best method to produce a quality car at the cheapest price possible. Each exchange is made feasible because all of the parties involved obtain a desired value from the exchange, usually in terms of achieving their own organizational goals. Where a desired value is not achieved, exchanges will be discontinued or renegotiated. Thus, an organization set can be an ever-changing set of exchanges among organizations.

The value to managers of understanding their organization set is in the knowledge about who one must negotiate with as well as what is to be negotiated. Additionally, knowledge of the organization set increases an understanding of the way the environment can force an organization either to adapt to or to control pressures that are external to its operations. The size of the organization set or number of organizations that a focal organization is linked to is largely determined by the nature of the organization's environment. Sets will usually increase as greater uncertainty occurs. Expanding the organization set is one response aimed at guaranteeing the acquisition of necessary resources. The types of environmental conditions that are likely to increase the size of the organization set are leanness, instability, complexity, dispersion, turbulence, and dissensus.

Figure 4-8 shows an organization set of a commercial television station. Since the station does not have the capital necessary to produce all of its programming, it must establish exchanges with a major network or syndicated producers in order to obtain programs. Other critical exchanges are with advertisers, news services, trade associations, program-rating firms, and viewer groups.

Figure 4 8

AN ORGANIZATIONAL SET OF A COMMERCIAL TELEVISION STATION



Source: Adapted from Timothy M. Stearns, *A Longitudinal Examination of Performance and Change in the Television Station Industry*, unpublished dissertation (1982.), 56

Networks

Understanding interorganizational relations from a network approach enables managers to identify the form and content of the exchange. Exchanges among a network of linked organizations may have

such properties as formality, directness, directionality, strength,
^{L3} and content.

Formality. Formality of the exchange between organizations means that specific procedures for making the exchange have been established. These procedures may be due to governmental mandate or established procedures recognized in the industry. Additionally, exchanges may be voluntary or involuntary. For instance, commercial television stations have formal involuntary exchanges with the Federal Communications Commission. Reports on programming and financial conditions are required to be filed yearly by all commercial television stations. Failure to do so can result in license revocation by the FCC. Standard forms requesting specific information are issued to each station. On the other hand, a commercial television station establishes formal voluntary exchanges with program suppliers. This may include a contract with a national network to provide programs or a multiple program package with a syndicate* with guarantees to show the program at a designated day and hour of the week.

Informal exchanges occur where no uniform or specific procedure in the exchange of goods or services exists. Procedures may vary from one exchange to another over time. An example would be a commercial television station exchanging locally produced programs with a station in another market. The exchange may be on a one-time basis **or** may have different procedures if conducted in the future.

Directness. Direct exchanges are those that are unmediated by a third party. **Indirect** exchanges are those that require the involvement of a third party in obtaining the desired goods or services. Managers of commercial television stations may purchase programs directly from the producer, or the program may be obtained from a sales representative of a company that sells programs from numerous producers. Another example is where managers of supermarkets may elect to purchase produce directly from the farmer or they may obtain the produce indirectly by purchasing it from a shipping firm.

Directionality. **Directionality**, or direction, of the exchange can be understood in terms of who originates the exchange and, who receives the goods or services being exchanged. Some organizations within a network may be primarily involved in originating exchanges. Other organizations may be primarily receiving the exchanges. Some organizations in the network have a mix of receiving and exchanging goods. Direc-

13. For an extended discussion of these exchange relationships, see W. G. Scott, T. R. Mitchell, and P. H. Bimbaum, *Organization Theory: A Structural and Behavioral Analysis* (Homewood, IL: Richard D. Irwin, 1981), 265-68.

tionality enables managers to identify which organizations influence the exchange of goods. Organizations which originate exchanges generally have more decision-making power than those which receive exchanges. Home Box Office (HBO), a subscription broadcaster on cable television, originates programming which is then received by local cable television operators. The cable operators then transmit the programs to customers such as hotels, restaurants, or private homes. Managers at HBO are the primary decision-makers regarding the types, amounts, and times programs will be aired over their channel.

Strength. The **strength of exchange** refers to the proportion of goods or services involved between two organizations over time. Two organizations involved in frequent exchanges have greater exchange strength than two organizations that exchange goods or services on an infrequent basis. Generally, strong exchanges will help reduce environmental uncertainty through greater awareness of the needs and habits of other organizations which increases through frequent interaction. Hence, a commercial television station that repeatedly purchases programs from one distributor will have more knowledge about current and future programming options than a station that only occasionally buys programs from the distributor.

Content, Content, or what is being exchanged between two organizations, is equally as important as the strength, directionality, directness, and formality of the exchange. Goods and services exchanged between two organizations may consist of information, capital, personnel, or products that are highly critical to the organization's operations, or **they** may be of little consequence. An oil company would find the purchase of crude oil critical to its operations. The purchase of pencils or paper clips from an office supply company would not be critical. A television station would find it essential to locate advertisers to purchase time during the broadcast of programs. The need to exchange information on programming at a local radio station is of less importance.

Understanding interorganizational relations is important for assessing how an organization relates to other organizations in its external environment. Managers may choose to develop an organization set that will maximize a variety of exchanges. In so doing, they can influence the number and type of organizations that are critical to their operations. An understanding of the organization set also enables managers to identify various domains of the environment to which they must be responsive. If numerous organizations in the set are governmental agencies, then managers should strive to obtain more information about laws and policies that are being created in the political domain. If most organizations are producers of new technologies, then managers may want to hire personnel with scientific training in order **to** monitor and test new developments **that** may emerge. If the **organization** receives critical resources

from only one organization, managers may want to expand the number of suppliers in order to reduce dependence on one firm.

Both organization set and network analysis are powerful tools that enable managers to understand their context with respect to other organizations in the environment. Much of an organization's success depends on understanding the interorganizational context as well as making decisions concerning how to adapt or influence current exchange linkages.

ORGANIZATION GROWTH AND DECLINE

Hundreds of organizations are established in the United States every day. Likewise, a high percentage of organizations established in the past five years declare bankruptcy every day. While there are many reasons to explain why failure is so high for new organizations, one overriding cause is a lack of managerial understanding of the organization's context. Another reason is an inability to manage the organization through its critical stages of development. Finally, it is apparent that many organizations that have achieved prior success often fail because they are poorly managed when they begin to decline.

Size and Age

Two characteristics of an organization are critical for understanding an organization's context and its movement through various stages of growth and decline: size and age. Virtually all organizations that are able to survive over time expand in size. Success breeds success and as an organization finds a demand for its good or service, attempts to expand the product line or market usually take place. Growth in size usually requires the implementation of new management skills and techniques to handle the problems of control and coordination of activities. Failing to do so can reduce the effectiveness of the organization.

The age of an organization reflects the time period in which the organization was founded and thus has consequences on how its internal activities are organized. For instance, organizations founded in the 1880s were organized in highly bureaucratic ways as the classical school of management provided the most accepted methods of managing an organization. Many high-technology firms founded in the 1980s have more participative and informal methods of management, as this reflects then current ideas of effective management. The time period in which an organization is founded will often imprint the methods of managing of that time period on the organization.¹⁴ As the organization ages, these

14. See A. L. Stinchcombe, "Social Structures and Organizations/" ed. J. G. March in *Handbook of Organizations* [Chicago, IL: Rand McNally, 1965], 142-93.

Managerial Profile

JOSEPH D. INDELLI



Joseph D. Indelli was named president of Columbia Pictures Television Distribution in January, 1985. Having earned a degree in history from Vanderbilt University in 1963, Mr. Indelli began his sales career with Procter & Gamble's Chicago office. Three years later, he joined Container Corporation of America's sales office in Chicago. In 1968, Mr. Indelli joined MGM-TV Distribution and for eight years spent time in that company's Midwest, western, and eastern sales offices. He joined Metromedia Producers Corporation as southeastern sales manager in 1976, and in May, 1977, was appointed national sales manager. He was elevated to vice-president of domestic sales in 1978—a position he maintained until coming to Columbia Pictures Television in 1980. Mr. Indelli's responsibilities as president include all syndicated sales, contract administration, promotion, advertising, publicity, and research for domestic distribution of television series and feature films. Columbia's product for distribution includes more than 40 series consisting of over 3,000 programs including "Hart to Hart," "Fantasy Island," "Charlie's Angels," "Barney Miller," "Benson," and "Soap." Under Mr. Indelli's leadership, Columbia Pictures Television Distribution is venturing into first-run series for distribution,

Q: What tasks or activities do you feel are most critical for effectively managing a company in the television industry?

A: The most critical task for effectively managing a company is to motivate people to achieve at their highest levels.

Q: The television industry is undergoing a restructuring in terms of the entrance of new technologies and a decrease in the size of television viewership. How do, or will, these trends, if true, affect the goals and objectives firms in the industry strive to achieve?

A: First of all, the premise that television viewing is declining is erroneous. The fact is, more homes are using television today at higher viewing levels per half hour than ever before. It is true, however, that network prime-time audience shares are eroding. The erosion is due primarily to increased levels of audiences watching free broadcasts on independent television stations. This presents a two-edged sword to our industry. On the one hand, because network shares are eroding, it becomes more difficult to keep programs on the air for five years. This is the ideal amount of time it takes to produce 100+ episodes, which are necessary for a successful launch into the syndication marketplace. The plus side of the ledger is that independent sta-

tions have become much stronger financially and are now able to pay bigger license fees for programs. The bottom line is that the industry is stronger now than ever, and all indications point to continued growth (although not the booming growth of the early eighties) for our industry. Q: What skills have you found to be most helpful in making your career in management a success?

A: Three skills including being able to communicate effectively with people at all levels in the company, exhibiting positive leadership, and being exceptionally well versed in the fundamentals of the television business.

Q: You indicate that being "well versed in the fundamentals of the television business" is important. How difficult is it to understand the fundamentals of a business?

A: It is not difficult to stick to the fundamentals if you realize what your goals are. It is easy in this industry to allow yourself to stray mentally by getting caught up in the "Hollywood" syndrome. Q: What qualities do you look for in people when hiring them (or a management position)?

A: Character, initiative, and the ability to deal with people are essential qualities.

methods of management become dominant and persist. Unless managers implement new techniques that are compatible with the time period, they may suffer a decline in overall organizational performance. For example, railroads and steel mills founded at the turn of the century have found it difficult to change the way they manage because methods from a different era have become common and accepted.

Stages of Growth

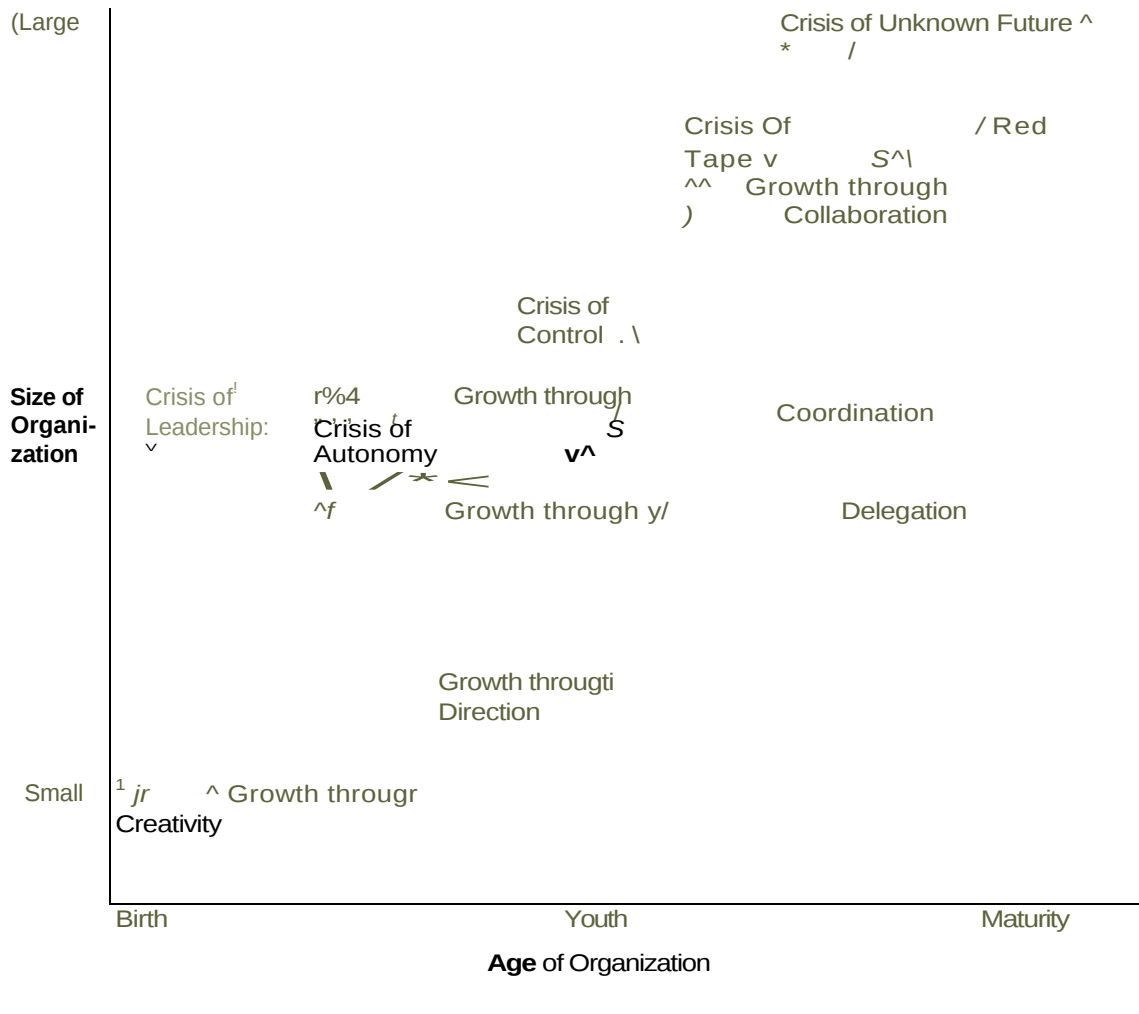
While organizations may vary in their rate of growth and their method of management due to the time of founding, many organizations follow an identifiable sequence in stages of growth. Larry Greiner has developed one such model of growth stages where each stage is separated by a crisis.¹³ Not until managers resolve the crisis is the organization able to move into the next stage which, over time, breeds another crisis to be resolved. Hence, age is considered to be an important dimension in the model since the method of solving past problems is likely to be applied to solving current problems. Size is also important because when organizations increase in members or sales volume, the types of problems that managers must confront also increase. Managers who are unable to adapt their organization's activities to the appropriate stage of growth are likely to lead the organization to failure. The series of stages and crises identified by Greiner is summarized in Figure 4-9.

Creativity and the Leadership Crisis. Many organizations are established because the creator has a single good idea for providing a product or service to the market. Generally, the founders are entrepreneurial with a strong knowledge of production and marketing. As a result, they devote long hours to the task of producing and selling their idea with little emphasis on managing the organization. The created organization tends to have few employees and supervision is done according to the personal style of the owner. The proliferation of computer firms during the 1970s in Silicon Valley reflects this process of organizational creation. Provided the organization survives over time and begins to grow in size, managerial demands begin to increase. Concerns over items such as payroll, hiring and firing of skilled personnel, and filing forms with governmental agencies begin to increase. Owners with strong technical skills often find these demands boring and cumbersome, and as a result, managerial leadership is ignored. To overcome this **crisis of leadership** and move the organization into a second stage of growth, a professional manager must be located and hired in order to give the organization direction.

15. L. E. Greiner, "Evolution and Revolution as Organizations Grow," *Harvard Business Review* 50 (July-August 1972): 37-46.

figure 4-9

FIVE STAGES OF GROWTH



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Direction and the Autonomy Crisis. With the addition of a professional manager to handle administrative chores, those members interested in creating and marketing the product are able to return to those activities. The professional manager focuses on directing the organization toward goals; establishing rules and procedures for budgets, inventory, and purchases; and developing job descriptions. As a result, the organization becomes more bureaucratic over time.

The crisis of autonomy occurs when members **who** desire to be creative find that the extensive rules and procedures actually restrict their ability to make decisions about the product. Middle and lower level managers find their own knowledge of problems to be superior to that of upper level managers, but they *axe* unable to contribute to key decisions. Where the development of a more formal organization and strong leadership once served to surmount the leadership crisis, it now generates its own crisis. Without a willingness on the part of upper management to relinquish controls over key decisions, the organization is likely to stagnate due to frustration among middle and lower level managers.

Delegation and the Control Crisis. The autonomy crisis is solved through delegation. Upper management relinquishes some of its authority and allows some key decisions to be made at lower levels in the organization. Thus, middle and lower level managers are able to make decisions about activities that they are directly engaged in. Marketing managers make decisions about the size of the sales force and the method of selling. Production managers no longer have to file extensive forms in order to purchase necessary parts. Through delegation, middle and lower level managers become more motivated as they now can control outcomes and be more personally involved in their tasks.

Over time and with an increase in the organization's size, middle and lower level managers become more autonomous. Unfortunately, this leads to a narrower orientation regarding the organization's purpose and ultimately a **crisis of control**. Marketing managers become unaware and uninterested in the problems in production and vice versa. As a result, parts of the organization begin to move in different directions as a loss of unity among the various departments occurs. Upper management is forced to develop new techniques that will serve to coordinate and integrate the various activities that exist in the organization.

Coordination and the Red Tape Crisis. The loss of control can be corrected by upper management implementing sophisticated coordination techniques. Product groups, formal planning, organization-wide incentive systems, additional staff, and company-wide information systems can be used to generate greater unity among the various departments of the organization. Solving the control crisis, therefore, is accomplished through coordination achieved by linking various groups that can share information and integrate their activities. Thus, marketing personnel become more aware of production schedules and production personnel receive input concerning customer needs and wants from the product. As the organization further develops and refines its coordination techniques, however, a **crisis of red tape** develops. The proliferation of meetings, the need to continually collect and process information, and increased paperwork begin to retard the activities of middle and lower level managers. Resentment toward upper management begins to emerge due to a feeling that the organization is too large and unwieldy. Conflicts

begin to break out and many members become focused more on procedures than on results.

Collaboration and the Crisis of the Unknown Future. The solution to the red tape crisis is achieved through innovative techniques of collaboration. Managers are oriented toward developing techniques of cooperation and resolving conflict. This is encouraged by removing formal controls on activities and replacing these with social controls and individual initiative. In this way, the organization is prepared to deal with a **crisis of the unknown future**. The organization is revitalized by upper management encouraging members at all levels of the organization to discover new ways to increase coordination and task performance.

The five-growth-stage model of an organization provides a powerful description of the way age and size influence the context of an organization. As organizations grow over time and are faced with environmental uncertainty, managers must learn to adapt and react to their surroundings in order to maintain success. In its beginning stages, the organization must find ways to survive. Provided this is done successfully, managers must then turn their attention to coordination and control of activities.

In addition, the model underscores the various methods of management required in each stage of an organization's life cycle. As Figure 4-10 suggests, in Stage 1, managers focus on producing and marketing a good or service. Over time, the focus changes to efficiency (Stage 2), market expansion (Stage 3), consolidation of the organization [Stage 4], and finally the management focus is on problem solving and innovation (Stage 5). Understanding the stages of growth will help a manager apply appropriate skills and techniques to organization problems. It can also assist managers seeking employment to recognize whether or not their skills and backgrounds correspond with the organization's needs.

Organization Decline

When organizations are not correctly adapted to the environment or have experienced poor management, they may suffer from decline. **Organization decline** is when managers of an organization are required to cut back the size of the organization's work force, profits, budgets, divisions, or clients. Selling divisions of the organization, laying off workers, reducing budgets, and curtailing service to clients have been common events in the 1980s for many organizations.

We can identify four reasons why organizations might decline: atrophy, vulnerability, loss of legitimacy, and environmental entropy.¹⁶

16. D. A. Whetten, "Sources, Responses, and Effects of Organizational Decline," ed.]. R. Kimberly and R. H. Miles in *The Organizational Life Cycle: Issues in the Creation, Transformation, and Decline of Organizations* (San Francisco, CA: Jossey-Bass, 1980), 342-74.

figure 4-10

METHODS OF MANAGEMENT DURING EVOLUTION IN THE FIVE PHASES OF GROWTH

	Creativity	Direction	Delegation	Coordination	Collaboration
Management Focus	Make and sell	Efficiency of operations	Expansion of market	Consolidation of organization	Problem solving and innovation
Top Management Style	Individualistic and entrepreneurial	Directive	Delegative	Watchdog	Participative
Management Reward Emphasis	Ownership	Salary and merit increases	Individual bonus	Profit sharing and stock options	Team bonus

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Organizational Atrophy. **Organizational atrophy** is common when organizations grow older. Management may lose its sharpness and become less efficient, greater emphasis is placed on profits rather than on quality of products, or fewer new members are recruited into the organization to give it a new vitality.

Vulnerability. **Vulnerability** is a result of the organization failing to adapt adequately or control its environment. It may also be the result of not having adequate exchange relationships with other organizations that provide it with critical resources. For instance, dependence on one supplier leaves an organization vulnerable as the supplier may go out of business or decide to sell its goods to another firm.

Loss of Legitimacy. An organization may experience decline because of **loss of legitimacy**; that is, because its goods or services are no longer believed to be legitimate or valued in the market. Cigarette manufacturers have experienced decline as more individuals quit smoking and fewer individuals start using tobacco. Pharmaceutical companies confront loss of legitimacy when the drugs they manufacture are found to have unhealthy side effects.

Environmental Entropy. Environmental **entropy** occurs when the organization's environment moves from being rich in resources to lean in resources. As noted earlier, organizations faced with a lean environment must find methods to become more efficient or find a different market to operate in.

Organizational decline need not always "be considered a negative outcome- Decline can provide management with the opportunity to curtail unprofitable or marginal operations, lead to a large-scale change in activities that then become more productive, or force management to be more innovative and seek options that will return the organization to a more effective path.

Unfortunately, decline often has negative consequences. As budgets and salaries are cut, many members of the organization are likely to voice their disapproval. This leads to greater levels of conflict within the organization which can reduce performance. Layoffs and firings are often required to combat decline, resulting in the suffering of many people. Decline also can encourage panic among managers of the organization, leading them into decisions that are not well thought out and doing more harm to the organization in the long run.

IMPLICATIONS FOR MANAGEMENT

This chapter serves as an introduction to the major contextual dimensions of an organization. Early managers viewed the organization as a closed system., and as such, did not consider how the context of the organization would influence activities within the organization. By analyzing the organization from an open-systems perspective, we begin to understand the "ecology" of the organization in a way that will facilitate more effective decision making and decision outcomes.

The environment is a powerful contextual dimension. Much of what happens in an organization's environment cannot be controlled by managers of an organization. Managers must learn to prepare the organization in ways that it can respond to uncertainty in the environment. In order to do so, managers must begin to identify and understand the relationship of the organization with environmental elements. Several useful techniques can be employed in order to achieve this result. First, managers can distinguish between those environmental elements that are components and those that are factors. Factors are those elements that do affect the operations of the organization, while components are those elements that potentially may have an effect on the organization.

Second, factors and components can be grouped into six environmental domains: economic, political, social, technological, competitive,, and physical. Some organizations may have most or all factors located in:

one domain. Other organizations may have factors evenly distributed among all six environmental domains. The grouping of factors suggests to managers domains of the environment which require greater attention and the collection of information. It also enables managers to develop mechanisms either to adapt to or to control those factors that influence the activities and performance of the organization.

Third, factors can be plotted along six environmental dimensions: munificence, dynamism, complexity, concentration, turbulence, and consensus. Each dimension has different implications for the organization and the way it relates to its environment. The six environmental dimensions enable the manager to understand the direction in which the environment is moving over time. Rich, stable, simple, concentrated, nonconnected, and consensual environments produce the greatest amount of certainty. Lean, unstable, complex, dispersed, turbulent, and dissensual environments produce the greatest amount of managerial uncertainty.

While the six dimensions provide an objective view of the way environmental factors are arranged, it does not necessarily follow that managers will perceive the environment as such. When managers think factors are arranged in a way that is different from their objective condition, then erroneous decisions are likely to occur, increasing the probability of organizational problems or even failure. Hence, managers should be continually collecting information from the environment in order to understand its present condition and the direction in which the environment is moving over time.

Once an understanding of an organization's environment is achieved, managers can consider methods for either adapting to or controlling the environment. Buffering, smoothing, forecasting, rationing, boundary spanning, structural complexity, and managerial succession can be considered individually or in combination as methods for adapting to the environment. Organizational managers may also choose to control environmental factors in a way that will achieve more desirable effects on the organization. This may be done through linkage techniques such as mergers, joint ventures, interlocking directorates, executive recruitment, and advertising. Or, they may manipulate the environment by changing domains, lobbying, or being involved in trade associations. The environment obviously places tremendous demands on organization management not only in demanding a clear understanding of its conditions, but also in responding appropriately to those conditions.

The need to obtain critical resources and markets to produce and distribute goods or services leads an organization to establish exchanges with other organizations in the environment. The number and nature of those exchanges have a significant impact on an organization's activities and performance. Managers should attempt to identify and understand the type of exchanges that exist not only for their own organization but also for organizations that they interact with frequently. This under-

standing will enable managers to further understand the implications of their decisions on organizations with which they share a mutual dependence on resources.

An additional contextual feature of an organization that is useful for managers to understand is its stages of growth. Affected by age and size, organizations enter and leave stages based on the rise or fall of crises that evolve from solutions to previous organization crises. Each stage, therefore, requires different adjustments to the organization in order to be successful. Managers also need to understand the conditions that lead to organization decline as well as the appropriate responses to decline.

An understanding of the contextual concepts in this chapter provides managers with a working knowledge of how events and conditions external to and characteristic of the organization shape internal activities. The difficulty associated with obtaining information about many contextual features further underscores the complexity of modern management. However, the more managers continue to incorporate these ideas into their decision making, the greater the probability of creating outcomes beneficial to members of the organization and society as a whole.

KEY TERMS AND CONCEPTS

boundary spanning	invention
buffering buffers	joint ventures
content	lobbying
contextual dimensions	loss of legitimacy
coping strategies	merger
crisis of control	monopolistic competition
crisis of leadership	monopoly
crisis of the	network
red tape	oligopoly
crisis of the	organizational adaptation
unknown future	organizational atrophy
direct	organization context
exchanges	organization decline
directionality	organization set
environment	perfect competition
environmental components	rationing
environmental elements	smoothing or leveling
environmental entropy	strength of exchange
environmental factors	structural complexity
forecasting formality	technical core
indirect exchanges	trade associations
innovation	vulnerability
interlocking directorates	
interorganizational	
relationships	

REVIEW QUESTIONS

1. In what ways does an understanding of an organization context help a manager to make better decisions?
2. Identify the contextual dimensions presented in this chapter, and discuss their implications for organizational and managerial activities.
3. How does systems theory provide an understanding of how contextual dimensions influence an organization?
4. What are the differences between environmental elements, factors, and components?
5. What are the six types of environmental domains? How would a manager determine which domains are more important to understand?
6. What are the six environmental dimensions? How would a manager determine where the organization resides on each dimension?
7. List the five types of managerial uncertainty that can lead to poor decisions.
8. How does environmental uncertainty differ from environmental domains and environmental dimensions?
9. What is the difference between organizational adaptation and control?
10. Identify seven ways managers can adapt their organization to their environment.
11. What are five ways managers can establish favorable linkages to reduce environmental uncertainty?
12. What are the three ways managers can manipulate the environment?
13. Discuss the roles that organization size and age have in the growth and decline of organizations.
14. Describe the five stages of growth according to Greiner's model and identify the type of crises that must be solved for the organization to move into its next stage of growth.
15. What are the four types of organization decline?
16. What is an interorganizational relationship? What is the difference between examining interorganizational relationships through organization sets and through networks?
17. Identify the various forms of exchange relationships an organization can have with another organization.

CASE 4 A The U.S. Lodging Industry

When consultant Hank Williams moved to Grand Junction, Colorado, from Denver in 1984, he checked into the local Ramada Inn for \$15.99 a night, a rate 50 percent below

what the hotel charged two years earlier. He stayed for three weeks. "I didn't get into a rush to find an apartment because it was such a bargain," says Mr. Williams.

Such good fortune, however, comes at the expense of the lodging industry. Despite the economic recovery, hotel and motel operators and investors have been staggered by a nationwide glut of rooms and a runaway construction boom. Most big chains have been immune to the downturn. But many operators in the \$32-billion-a-year industry have been badly hurt.

In Miami and Houston, for example, overbuilding has led to major failures, mothballed hotels, and rate wars. In Orlando, Florida, lodging executives are nervously watching a wave of construction that will give the medium-sized resort town near Disney World more rooms than Chicago, "Mickey Mouse can only attract so many people," says an Orlando hotelier.

Nationally, developers are building an average of 110,000 rooms a year, compared with 25,000 rooms a year 10 years ago. Meanwhile, the industry's occupancy rate of 66.6 percent is down six points from 1974. Neither the record 216 hotel and motel failures in the industry's last fiscal year nor the 70 bankruptcies between June and August this year have slowed construction. "We're on a collision course with disaster if we don't do something about the overbuilding," warns Tom Herring, Sr., president of the American Hotel & Motel Association. Overzealous developers are partly responsible for the glut. Hoteliers and developers say planning a hotel can take as long as five years and cost millions of dollars. Even if market conditions have changed by the time ground is broken, the initial investment makes it almost impossible to stop.

Such a cycle occurred in Grand Junction. The growth of energy exploration in the late 1970s promised a bright future for this western Colorado town of 29,000. Thousands of oilfield workers descended on the city, overstuffing its 1,410 rooms. Developers, sensing huge profits, doubled the number of rooms in three years. But as the

hotels began to open, the boom fizzled and then vanished. A Grand Junction businessman recalls that during the economic zenith, he couldn't find 50 rooms in one hotel five months before a planned business meeting. "Now you can name your price," he says, referring to slashed prices.

Cities, eager for development, are also guilty of overbuilding. They encourage construction by issuing tax-exempt bonds to builders but sometimes disregard market conditions. Last year, for example, Grand Junction officials issued bond money for a downtown hotel and an airport hotel over the objections of the local lodging association. The overbuilding has also been fueled by individual and institutional investors seeking hefty returns and tax breaks through increasingly popular real estate syndications and partnerships.

But the glut that has hurt small and independent hoteliers hasn't hit the big chains with the same intensity. Indeed, some of the largest chains, like Holiday Inns, Hilton Hotels Corporation, and Marriott Corporation, have reported increased earnings. The major players have prospered by tailoring expansion plans to market conditions. Marriott, for instance, scuttled plans in the past year to build in Memphis, Sacramento, Birmingham, and three other cities because of sluggish markets. The big chains are also ensuring future profits by moving to the lower and upper scales of the industry. Holiday Inn opened its budget-priced Hampton Inn chain this summer in Memphis and plans to build 300 in five years. Embassy Suites, Holiday Inns' luxury unit, broke ground with two hotels in January, 1983, and has 30 more under construction.

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1. Identify the factors that affect the lodging industry. In what environmental domains do these factors reside?
2. Locate the lodging industry on the six environmental dimensions. Which environmental dimension do you feel produces the greatest amount of uncertainty in the industry?
3. For the city of Grand Junction, identify the domains in which environmental

factors reside and the location of hotels and motels on the six environmental dimensions. How does Grand Junction compare with the industry? 4. Identify those contextual features that may account for why the big chains have not been hurt by the glut to the extent that small and independent hotels and motels have been hurt.

PART 2 CASE A The Nummi Venture

In Fremont, California, just south of San Francisco, one of the automobile industry's most controversial and high-stakes experiments is coming to fruition. Called New United Motor Manufacturing Inc., or Nummi, the much-celebrated venture has made bedfellows of some unlikely partners: Toyota Motor Corp., the top auto importer in the United States; General Motors Corp., and the United Auto Workers union. The venture, announced in 1983, was one of urgent convenience. For Toyota, it was a critical first foray into building cars in the United States. GM, in turn, eagerly wanted to learn how to make low-cost, high-quality small cars. And the UAW, facing an onslaught of anti-union Japanese companies, knew that to woo Japan it had to prove unions weren't impediments.

Today, after more than a year of operations, the Japanese-managed former GM plant is holding a big open house to highlight what everyone is calling a remarkable success. Praise is uniform: "Spectacular," says a top union insider. "An outstanding success," says a GM executive. At the ground-breaking earlier this month for Toyota's new car plant in Kentucky, Hideyo Tamura, senior managing director, acknowledged, "If Nummi hadn't been successful, we might have had second thoughts about taking this next step."

Yet, while the plant is building high-quality cars amid unprecedented labor peace, some nettlesome problems remain. Complaints about a quickening work pace are surfacing at the once-militant Fremont local. While GM already has transplanted certain Nummi techniques to other plants, some GM managers say the Japanese method can't be fully realized without duplicating the entire Nummi system. Also, some Toyota executives question whether the company can directly apply its Nummi experience to the very different work force in Kentucky.

United Auto Workers

In some respects, the UAW is one of the bigger winners at Fremont. Union members are back to work and pride in the plant is widespread. "There's been a big change in workers' attitudes," says George Nano, local union bargaining committee chairman.

That, clearly, is an understatement. When GM closed its Fremont plant in 1982, laying off about 5,000 workers, an extraordinary 800 grievances were pending and absenteeism regularly passed 20 percent. Beer bottles littered the parking lot and even a union request for a fan in a plant telephone booth had to go to the negotiating table.

About 2,500 workers, most of them former GM employees, were hired when the

joint venture resurrected the plant. Under Toyota, employees are placed in teams, supervised by other hourly workers. They can stop the line if they discover a car that is not up to standard. They also take part in many decisions.

The UAW, in turn, agreed to fewer work rules but won a guarantee against most layoffs. The result: GM, which markets the Nummi-made Nova, says its surveys regularly rank the car among GM's top three models in terms of quality. Productivity is up, pending grievances have dropped to about 15, and absenteeism stands at about 3 percent. The beer bottles in the parking lot now are gone.

The dramatic improvements should be a lesson for U.S. auto makers, Donald Ephlin, vice-president of the UAW, recently told a gathering at the Japan Society in New York. "The only thing that changed in Fremont was the management system," he said.

Through Nummi, the UAW also proved to Japanese auto makers that it can be flexible. Still, the union appears no closer to organizing the Honda Motor Co. or Nissan Motor Corp.'s U.S. plants. Mazda Motor Corp. is negotiating with the UAW over a plant it is building near Detroit, though that decision was influenced by Ford Motor Co., which owns 25 percent of Mazda. Toyota also hasn't given the UAW prior recognition in Kentucky.

Some problems are also surfacing at Nummi. Included in the Japanese prescription for increased productivity and better attendance is a strong dose of peer pressure, which some complain raises tension at work. Toyota staffs few backup personnel, so team members must rely on each other. "If someone doesn't show up for work, there's a hardship," acknowledges Robert Hendry, a manager at the plant. There are also rebukes. "If you're not here," repair shop employee David Ross recently told a

tardy co-worker, "you put a black mark against the whole team."

The pressure to perform, which clearly has its positive aspects, is heightened by the specter of the 1982 plant closing. "We lost our homes, our cars, savings," says a union member. "We're not secure yet."

An opposition group says that peer pressure and fear are eviscerating the union. The leadership, says one dissenter, is too willing to buy into Toyota's system and too quick to condemn others for not embracing it.

The group, which polled moderately well in a recent union election, complains that the work pace has become relentless, while in the paint shop some workers are once again talking of the need for job classifications that recognize the plant's tougher work.

Union officials, however, say that internal politics fuels the dissent and that the local protects its members. In a recent case, for example, an employee was dismissed for allegedly padding her time card. The union says it proved her supervisor wrong, and she went back to work.

"We happen to be at that phase where you have some growing pains," says Joel Smith, a UAW regional representative in Fremont. "Still," says Mr. Smith, "we're not going out on a limb and try to justify everybody who wants to take the day off and go to the beach. You have to come to work."

General Motors

GM has unabashedly pursued its education at the knee of Toyota. About 16 GM managers from all disciplines have taken posts at the plant. Their mission: to study every nuance of the Toyota method. GM also has sent about 1,500 of its people on tours of the plant, believing that a first-hand look will help speed change elsewhere. It has even set up a permanent Fremont liaison office, which has videotaped or documented

everything from body stamping to Nummi's accounts receivable.

Sales of the Nova, which GM markets, are picking up after a slow start and the lessons of Nummi are showing up in other GM plants. The auto maker, which has long experimented with team concepts, plans to let workers stop the assembly line for quality problems in its Wilmington, Delaware, plant. When GM saw how efficiently doors were assembled next to the main line at Nummi instead of in a separate plant, it decided to do the same at its new plant near Kansas City, Kansas. GM also has transferred two of its Nummi managers to GM's new Saturn small-car venture.

"Probably the chief lesson," says Joseph Spielman, director of GM's Chevrolet-Pontiac-Canada group, "is that they integrate the people systems." GM, by comparison, has "automated everything we can." After observing Nummi, GM actually simplified some automation planned for several new plants.

Indeed, an internal GM study group found this integration the key to Nummi. "The corporation went in expecting to find some secret technology, proprietary information," says a member of the group. "They just aren't there." Instead, GM found Toyota's methods "fit together neatly. You can't just cherry-pick" a few items, he says.

Some industry analysts wonder whether GM is capable of adapting the subtle "system" of Nummi. "They're so deeply involved in this mechanical solution to their problems—a faster drill, more robots," says one analyst.

GM understands the process "... as far as the hardware and the plant layout are concerned," says Kan Higashi, executive vice-president of Nummi. "But I'm afraid that GM upper management doesn't understand the basic concept." He wonders whether GM grasps that top management—not just lower level employees—must be part of any team concept.

GM insists its strategy will make good use of Nummi. "We don't plan to make any GM plant a clone of Nummi/" says David Campbell, group director of operations for Chevrolet-Pontiac-Canada. "If we were to take the Toyota system and try to impose it on the GM system, it probably wouldn't work."

Toyota

Despite its ready praise of Nummi workers, Toyota initially didn't want to move into Fremont. The plant was far from many of its prospective U.S. suppliers and the union local was militant. Finally, the Japanese gave in to pressure from GM. Toyota, which signalled its commitment by sending a founding family member, Tatsuro Toyoda, to head the project, ended up having to cart tires and other products over the Rockies,

Indeed, learning U.S. materials management—how to get enough of the right parts at the right time—was one of Toyota's chief interests. In Japan, the auto maker measures inventory in minutes. In the U.S., the so-called just-in-time schedules had to be stretched. Early on, some suppliers missed schedules wholesale. "On a conceptual basis, our system works," says Mr. Higashi. "But we need to work on implementation."

The Japanese still are perplexed by the inconsistent quality of materials that some of its 75 U.S. suppliers deliver. "In Japan, we don't have a receiving inspection" for parts arriving at the plant, says Mr. Tamura of Toyota. "At Nummi, we do."

The company hopes its two new plants in Canada and rural Georgetown, Kentucky—since they are more centrally located—will escape some of Nummi's supply travails. There are other lessons Toyota probably will transfer, including new knowledge of ocean-freight logistics and environmental rules for U.S. plants.

But not everyone is convinced that the smooth experience with labor at Nummi can be easily transferred to Georgetown's work force. After all, notes Mr. Higashi, the laid-off Fremont workers were anxious for work and already highly skilled. "But if you go to a rural area, without the expertise—you can't always apply what we have here automatically," he says.

With Nummi expected to post its first annual profit this year, Toyota now turns its attention to the Kentucky venture. The auto maker may take heart from one auspicious sign. When Shoichiro Toyoda, president of Toyota, attended the Kentucky Derby before the Georgetown plant's groundbreaking, he stopped by the \$2 window for a wager on a long shot named Ferdinand. The rest is history. Mr. Toyoda's take: \$37.40, a cool 1,770 percent return on investment.

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Discuss how the Nummi venture appeared to impact on employee attitudes and behaviors. What does the case suggest about the nature and roles of the Nummi workers' abilities, needs, and values? Also, the case states, "... some Toyota executives question whether the company can directly apply its Nummi experience to the very different work force in Kentucky." Discuss this statement in terms of your answer to the first part of this question. What evidence does the case provide that Nummi has the characteristics of a system? Does it appear to be an open or closed system? Why? Which of the six environmental domains seem to play major roles at Nummi? Which do you feel is most important? Why? How did the differing contexts of Toyota and GM appear to shape their perspectives, and goals in the Nummi venture?

