

# **MANAGING FOR COMPETITIVE ADVANTAGE**



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## PREFACE

*Managing for Competitive Advantage* features an up-to-date, concise, and readable presentation of management fundamentals. It is designed to help you read and review the subject of management quickly and conveniently.

This course teaches you the art and science of managing and accomplishing organizational goals and improving the way organizations are managed. Management refers to the process of coordinating and integrating work activities so that they are completed efficiently and effectively with and through other people. Managers of today need to be equipped with all the tools and concepts necessary to perform managerial activities in order to be globally competitive. Topics include functions of managers, strategies, planning, decision making, organization, leadership, motivation, control, total quality management (TQM), the role of information technology (IT), international business, management information systems (MIS), and analysis of problems central to management.

In addition, the course can make a valuable contribution to:

- Management and supervisory training programs;
- Executive development seminars;
- On-the-job personnel development;
- Updating management information;
- Government and business positions in management; and
- A host of other situations where an intelligent managerial decision is required

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## CHAPTER 1

### APPROACHES TO MANAGEMENT

#### LEARNING OBJECTIVES

After studying this chapter you will be able to:

1. Detail the concepts of management.
2. Explain and illustrate the human behavior approach.
3. Outline and discuss the social system approach.
4. Illustrate and implement the systems approach.

*Management is a process or form of work that involves the guidance or direction of a group of people toward organizational goals or objectives.* Management is an activity, performing it is managing, and one who performs it is a manager.

An individual who becomes a manager takes on new duties that are entirely managerial in character. Important among these is the relinquishment of a tendency to perform all things personally. The operating work tasks are accomplished through the efforts of the manager's subordinates. Essentially, a manager's task is to utilize the subordinates' efforts effectively. However, seldom do managers spend all their time managing; they normally perform some nonmanagement work.

As reflected in the above definition, management is normally associated with a group. True, a person manages his or her personal affairs, but the important reference in management is to a group. Cooperative endeavor is the word of today. Vast material resources and technical skill are of small avail unless the managerial capacity to use these resources and skills through organized groups is encouraged and developed. Further, because of a person's individual limitations, it has been necessary to look to the group to achieve most personal goals.

Management is purposeful and intangible. It attempts to achieve specific results, commonly expressed in terms of objectives. The efforts of the group contribute to these specific accomplishments. Management may be described as intangible, since it cannot be seen, but is evidenced only by the results it brings about -- adequate work output, human satisfactions, and better products and services.

Management is both a science and an art. There is an organized body of knowledge about management -- a science -- which explains management by reference to general truths. The causal relationships between management variables have been ascertained and are expressed as generalizations, but every generalization may be subjected to further research and modified with new knowledge. All science is dynamic, that of some fields more so than others. If this were not

so, we would have no more accumulated knowledge today than did the early Egyptians or the citizens of the Roman empire.

Art is the know-how to accomplish a desired result. It is the skill that comes with experience, observation, and study, and the ability to apply management knowledge. The art of management requires creativity, based on and conditioned by an understanding of the science of management. Thus, the science and the art of management are complementary. As one improves, so should the other; a balance between the two is needed.

Management is as old as civilization. In ancient Greece and the Roman Empire, abundant evidence of management is found in the historical records of the government, the army, and the courts. Before the first half of the 19th century, management had already made progress in keeping with the improving means of production. Incentives, cost determination, and work measurement were coming into use. Throughout the 19th and on into the 20th centuries, more students, industrialists, and public officials became interested in management. Attention was given to organization, to the effective use of time, and to budgetary controls. Significant efforts were directed toward the development of a management theory and the building of a framework for future management thought.

About 1930, the idea that people were the most important consideration in management gained favor and caused many to turn to the study of human behavior. Several decades later, the computer became available, bringing with it increased emphasis on quantitative methods of analysis in management. The application of mathematics and statistics represented a new approach to management. More recently, other approaches, such as concentration on decision making and on systems analysis have entered the mainstream of management thought.

From these various developments, several major approaches to management have emerged. Frequently referred to as management theories or “schools of management thought,” some theories pioneered brand-new areas, whereas others are modifications or a fusion of former concepts. Management is a universal subject and, as such, attracts students and practitioners from a wide range of fields including economics, psychology, sociology, political science, and mathematics.

Acquaintance with each major school of thought is helpful in studying management and in assessing its development and usefulness. There are five main approaches.

**1. The process approach.** Management is analyzed from the viewpoint of what a manager does to qualify as a manager. Those activities or fundamental functions that managers engage in make up a process called the management process. The process approach focuses on the study of the fundamental management functions. The process approach is widely used because it aids tremendously in developing management thought and helps identify management in readily understood terms. An action for study by a manager can be classified in keeping with this basic process. Answers to the following questions can be found: (a) What is the purpose and nature of the activity? (b) What explains the structure and the operations of the activity? Followers of

this approach regard management as a universal process, regardless of the type or level of organization; but they also recognize that both the internal and the external environments in which the management process is applied differ widely among organizations and levels.

**2. The human behavior approach.** The core of this approach is the behavior of the human being. It brings to management the methods and concepts of relevant social sciences, especially psychology and anthropology. Emphasis is given to interpersonal and intrapersonal relationships and their effect on management. The individual is viewed as a sociopsychological being. The art of management is stressed and the entire realm of human relations is seen in management terms. Some consider the manager as the leader and treat all activities that are led as managerial situations. The influence of environment and its motivating effect on human behavior are given thorough study. Since there can be no question that managing involves human behavior and the interaction of human beings, the objectives of this school are without doubt appropriate, and its contributions beneficial to management study.

**3. The social system approach.** Advocates of this approach look upon management as a social system or, in other words, as a system of cultural interrelationships. It is sociologically oriented, deals with various social groups and their cultural relationships, and attempts to integrate these groups into a social system. An organization is considered a social organism, subject to all the conflicts and interactions of its members. This approach takes into account the emergence, importance, and functioning of the “informal organization,” which is seen as coming into being primarily as a result of social forces. Also taken into account are ethical considerations, the influence of the community, trade unions, and government. The net result of the social system approach is to bring the power of sociological understanding to management study and theory.

**4. The systems approach.** General systems concepts are the focal parts around which this approach is developed. A system can be viewed as an aggregation or assemblage of two or more components that are in some definite relationship to each other and between which an action in one brings about a reaction in another. In other words, a system is an interrelated set of interacting components. Systems are basic to most activities. What is thought of as an activity may in reality be the result of many other subactivities, and these, in turn, of other sub-subactivities. Thinking in terms of systems simplifies and unifies the conception of the many activities with which a manager works. A management plan, for example, can be thought of as a system with components of people, money, machines, materials, information, and authority. Adherents of the systems approach aim for the development of a systematic framework for describing relationships of activities. The systems approach provides a means to see clearly critical variables, constraints, and interactions.

**5. The quantitative approach.** The focus here is on the use of mathematical models and processes, relationships, and measurable data. This approach has demonstrated its great managerial usefulness. Management is viewed as a logical entity which, expressed and related in quantitative terms and processed by an accepted methodology, results in answers to carefully defined managerial problems. This approach forces the user to precisely define the objectives,

problems, and relationships in measurable data. Furthermore, the recognition of definite constraints and use of logical processing supplies the manager with a powerful means or tool for solving certain complex management problems. Primarily concerned with decision making, the approach is most effective when applied to physical attributes such as inventory, transportation distances, and product mixes.

### **The Role of information technology (IT)**

Our lives and organizations have been engulfed by information technology (IT). Ideas, information, and relationships are becoming more important than production machinery, physical products, and structured jobs. Many employees perform much of their work on computers and may work in virtual teams, connected electronically to colleagues around the world. Organizations are becoming enmeshed in electronic networks. Technology provides the architecture that supports and reinforces the new workplace.

The world of e-business is booming as more and more business takes place by digital processes over a computer network rather than in physical space. E-commerce is a narrower term referring specifically to business exchanges or transactions that occur electronically. The role of enterprise resource planning systems (ERPs) that unite a company's major business functions—order processing, product design, purchasing, inventory, etc. ERP weaves together all of the company's systems, managers anywhere in the organization can see the big picture and act quickly, based on the up-to-the-minute information. ERP prompts a new approach to management—a company wide management system in which everyone has instant access to critical information. Knowledge management refers to the efforts to systematically find, organize, and make available a company's intellectual capital and to foster a culture of continuous learning and knowledge sharing so that a company's activities build on what is already known.

IT plays an important role by enabling the storage and dissemination of data and information across the organization, but technology is only one part of a larger management system. A complete knowledge management system includes not only the technology for capturing and storing knowledge for easy access, but also new management values that support risk-taking, learning, and collaboration.

### **Managers in the 21<sup>st</sup> Century**

To be successful, managers and corporate leaders in the 21<sup>st</sup> century must focus on:

1. Employee empowerment.
2. Commitment to operating efficiency.
3. Promoting innovation among employees.
4. Excelling continuously on performance criteria.
5. Encouraging employee development.
6. Practicing social responsibility.
7. Emphasizing customer satisfaction over profits.



## **CHAPTER 2**

### **MANAGERIAL FUNCTIONS**

#### **LEARNING OBJECTIVES:**

After studying this chapter you will be able to:

1. Differentiate among and define the five major managerial functions.
2. Illustrate and label the functions.

As defined in the previous chapter, the process or operational approach identifies management by what a manager does to qualify as a manager. In turn, what the manager does is distinct; it is an activity made up of several fundamental functions that constitute a unique process -- the management process. These fundamental functions are the subject of this chapter.

#### **The five major functions**

It is important to remember that management is a form of work. The manager, in doing his or her work, must perform certain activities called the functions of management. These are:

1. Planning -- deciding what objectives to pursue during a future time period and what to do in order to achieve those objectives.
2. Organizing -- grouping activities, assigning activities, and providing the authority to carry out the activities.
3. Staffing -- determining human resource needs, recruiting, selecting, training, and developing human resources.
4. Motivating -- directing or channeling human behavior toward goals.
5. Controlling -- measuring performance against goals, determining causes of deviations, and taking corrective action where necessary.

Figure 2-1 further details the specific types of activities that are involved in each of the management functions.

Every manager, regardless of his or her level in the organization, performs all of these functions to some degree. However, the relative amount of time spent on each function might vary considerably from situation to situation. Each level of management does not use the same mixture of 30 percent planning, 20 percent organizing, 20 percent staffing, 15 percent motivating, and 15 percent controlling. Furthermore, different managers occupying similar

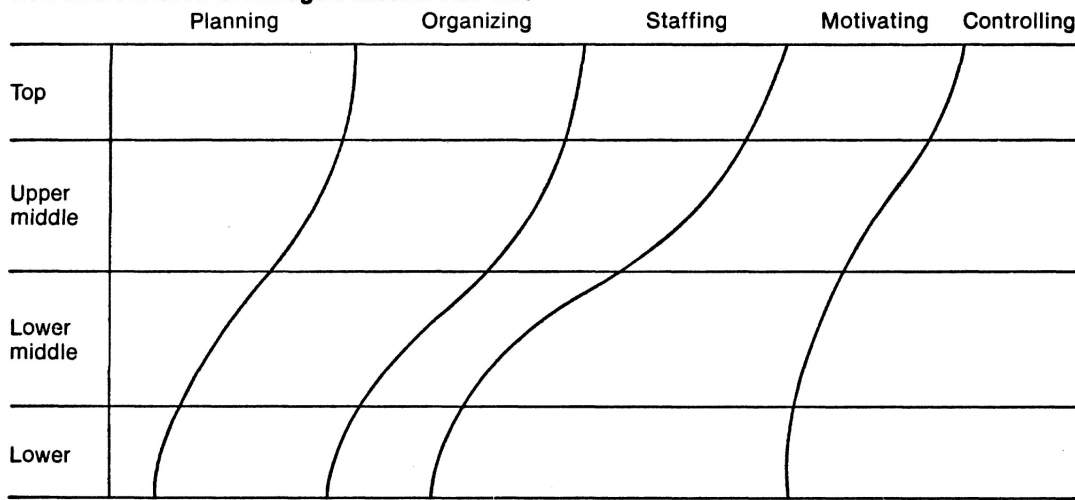
positions within the organization may use different mixtures of the functions. This may be due to different levels of personal expertise or environmental factors. There is no fixed amount of time required for any one particular function. The allocation of time is the manager's own decision. However, a manager who is spending almost all of his or her time doing one particular function with almost no time spent in one or more of the other functions should critically analyze his or her work performance.

Figure 2-2 provides some general guidelines as to how managers at different levels tend to allocate their time.

**FIGURE 2-1**  
**The management functions**

<b>Planning:</b>	
1. Self-audit—determine the present status of the organization.	3. Select from the recruits.
2. Survey the environment.	4. Train and develop the human resources.
3. Set objectives.	5. Revise and adjust the quantity and quality of the human resources in light of control results and changing conditions.
4. Forecast future situations.	6. Communicate throughout the staffing process.
5. State actions and resource requirements.	
6. Evaluate proposed actions.	<b>Motivating:</b>
7. Revise and adjust plans in light of control results and changing conditions.	1. Communicate and explain objectives to subordinates.
8. Communicate throughout the planning process.	2. Assign performance standards.
	3. Coach and guide subordinates to meet performance standards.
<b>Organizing:</b>	4. Reward subordinates based on performance.
1. Identify and define work to be performed.	5. Praise and censure fairly.
2. Break work down into duties.	6. Provide a motivating environment by communicating the changing situation and its requirements.
3. Group duties into positions.	7. Revise and adjust the methods of motivation in light of control results and changing conditions.
4. Define position requirements.	8. Communicate throughout the motivating process.
5. Group positions into manageable and properly related units.	
6. Assign work to be performed, accountability, and extent of authority.	<b>Controlling:</b>
7. Revise and adjust the organization in light of control results and changing conditions.	1. Establish standards.
8. Communicate throughout the organizing process.	2. Monitor results and compare to standards
	3. Correct deviations.
<b>Staffing:</b>	4. Revise and adjust control methods in light of control results and changing conditions.
1. Determine the human resource needs.	5. Communicate throughout the control process.
2. Recruit potential employees.	

**FIGURE 2-2**  
**How different levels of managers allocate their time**



Determining the most important management function is like attempting to determine the most important leg on a chair. All legs are important and must be present in order for the chair to function properly. Just as with the chair, if one of the management functions is weak or missing, the management process does not function properly.

### **Labeling the functions**

It should be pointed out that not all management authors agree as to what the management function should be called. There is general agreement that planning, organizing, and controlling should be labeled as management functions. Some authors include the staffing function as a part of the organizing function. The main disagreement involves the terminology given to the management function dealing with motivation. Some authors use motivating, some use directing, others use leading, influencing, or actuating. The term *motivating* will be used in this course.

Suggestions have been made to consider additional functions as fundamental in the management process, including authorizing, communicating, counseling, evaluating, integrating, measuring, and specifying. A manager performs these, but to include such functions would appear redundant, for they are already included in at least one of the five major functions. It should be emphasized that the fundamental functions of management are interrelated. Planning, for example, affects organizing; and organizing influences controlling. One function does not cease entirely, before another is started. They are inextricably interwoven; and, normally, they are not performed in any particular sequence, but as the individual need seems to require. For launching a new organization, planning usually is first, followed by other functions; but for any established organization, controlling at a given time may be followed by planning and, in turn, followed by motivating.

## CHAPTER 3

### THE MANAGER AS A DECISION MAKER

#### LEARNING OBJECTIVES:

After studying this chapter you will be able to:

1. Explain the process involved in decision-making.
2. Identify and evaluate decision factors.
3. Discuss the decision making process.

One universal mark of a manager is that he or she is a decision maker. A manager must decide what objectives to pursue. To achieve these objectives, the manager must decide what specific actions are necessary, what new means can be introduced, and what to do in order to maintain a satisfactory work output. Decision making takes place in every part of an organization.

*Decision making* is the selecting of an alternative, from two or more alternatives, to determine an opinion or a course of action. It is the psychic and creative event in which thought, feeling, and knowledge are brought together for action. It usually involves uncertainty. In decision making, a manager is dealing with future values which are to some degree unknown. Further, the selection of the alternative is always based on some criteria, such as to reduce cost, save time, or develop managers. The criteria used influence the selection of the alternative. For decision making to exist, there must always be two or more alternatives. In many cases, there are just two; for example, the maximum-or-minimum type or the yes-or-no type.

For each alternative, the possible outcomes are predicted and then evaluated in terms of relative desirability. Normally, the most desirable is the one that will contribute best to the objective sought. This evaluation can pose real difficulties. It is influenced greatly by one's values, and conflict among these values is quite likely. Desirable and undesirable elements seem to exist in every alternative. These conflicting aspects must be reconciled in some way satisfactory to the decision maker, because decision making literally means "to cut off," or to come to a conclusion.

#### Evaluating decision factors

In these efforts, both tangible and intangible factors are considered. The former include profits, dollars, labor-hours, machine-hours, and other quantitative data that are assessed. These factors are interrelated. To illustrate: profit maximization usually depends, in part, on comparison of various physical factors. In production planning, the utilization of personnel and the loading of machines may be the limiting physical factors in measuring the production schedule programs. When the presence of the tangible factors is high and measurable and the intangible factors are relatively minor, the selection of the alternative on the basis of tangible

factors is relatively simple. However, it must be remembered that the physical factors are based on estimates and forecasts that are rarely exact and accurate. A margin of error and uncertainty still exists.

Intangible factors are normally quite difficult to evaluate. They must first be recognized, then ranked in terms of their importance, and finally compared with respect to their probable effect upon the ultimate results. In other words, an attempt is made to weigh each intangible. A manager may know that a new invention will someday make a product obsolete but is unsure as to the timing. Or the manager is unsure as to the possibility of a strike in a vendor's plant.

Furthermore, in this evaluation, it is helpful to concentrate on the really important or limiting factors, be they tangible or intangible, that are critical to goal attainment. Through this approach, the evaluating task becomes manageable. However, discovering the limiting factor or factors may not be easy, especially if the reactions are complex and the factors obscure. Some use the terminology *limiting factors* and *complementary factors* to designate, respectively, those that are critical or limiting and those that are not.

There are many available techniques for evaluating alternatives. The techniques run the gamut from what amounts to guesses to highly sophisticated mathematical analyses. There is no one best basis for all circumstances. The selection depends on the manager's background and knowledge and the particular decision situation. The following are among the most frequently used:

**1. Marginal analysis.** This technique compares the extra cost and revenue resulting from the addition of one more unit. The profit maximizing point is that volume where, for the last unit added, the additional revenue equals the additional cost. At any lesser volume, the marginal revenue exceeds the marginal cost, and at any greater volume, the marginal cost exceeds the marginal revenue.

**2. Psychological theory.** Many issues that a manager must decide are not economic. The decision concerning the size of a private office, for example, might well be influenced by psychological values. Other examples include decisions based on the personal satisfaction of a management member, adherence to an inherited set of traditions deeply revered by top managers, or desire for bigness just for the sake of bigness.

**3. Intuition.** Decision making, based on intuition, is characterized by the use of the "inner feelings" of the decider. It may be a sort of sixth sense, a deep feeling about the situation, or an inexplicable insight into a certain state of affairs. Sometimes the intuition is an almost instantaneous feeling that a certain action is bound to lead to certain stated results. This process of the decision making may be highly irrational, following no set pattern. Intuition probably is present, to some degree, in most decision making. It does not always give satisfactory results; but it quickly supplies a decision.

**4. Experience.** Intimacy with and understanding of issues require experience. Experience supplies guides, helps to discriminate, and helps to generalize past situations. Practical knowledge is utilized, and acceptance of the decision by others usually follows. Some contend that reliance upon experience makes for excessive conservatism in decision making. Things change; past successful decision making does not necessarily ensure future success. Experience should be used, but a manager need not be bound to it.

**5. Follow the leader.** A considerable number of decisions are made by following and, in some instances, duplicating the decision that the leader has made. Usually, when this practice is followed, the major decisions have already been reached. Patterned decisions result from a follow-the-leader practice.

**6. Experimentation.** “Try out the alternative and see what happens” can be effective in deciding which course to follow. This is the common decision-making basis in scientific inquiry and in new-product design and development work. Testing sales acceptance in selected markets before going nationwide is illustrative. Experimentation is relatively expensive, and it is based on the assumption that the future will duplicate the past.

**7. Analysis.** What decision to reach, in a given case, can be aided by breaking the problem into its components and studying each component by itself and also in relationship to the other components. Thus, the critical aspects of the decision making are brought to the fore, and causal relationships, as they affect objectives, are identified. In many cases, answers to questions are employed to assist in the analysis. The approach narrows the facts believed essential for the decision to the most important specifics. Ability to conceptualize the problem is an important step in this approach.

**8. Quantitative methods.** In recent years there has been an increasing trend toward the use of quantitative methods in managerial decision making. These methods feature: (1) a broad point of view, sometimes termed a *systems view*; (2) identification and measurement of the objectives; (3) the quantification of all relevant variables; (4) the use of models, usually mathematical abstractions which show relationships in quantitative terms; (5) optimizing or minimizing a certain function, such as cost efficiency; and (6) orderly thinking and logical methodology. Appendix A at the back of the text discusses some of the most popular quantitative methods that are used in decision making.

## **Making decisions**

Who should make particular managerial decisions? A given decision should be made by a person, at the lowest organizational level, who possess the ability, desire, and access to the relevant information and who is in a position to impartially weigh the factors. It is not always easy to determine who this person is. Hence, it is common to define what types of issues a manager can decide.

Decision making is either on (a) an individual basis or (b) a group basis. The former is common when the decision is simple and all the alternatives are fully comprehended. Individual decision making fulfills the popular role of what a manager should do. Emergency situations are typically decided on an individual basis. Emergencies always arise but should not be permitted to justify emergency decision making as the accepted mode. Whether to make or defer an emergency decision is conditioned mainly by the consequences of not deciding.

The group basis for decision making has gained widespread acceptance. Through group decision making, those who will be affected by a decision are given the opportunity to participate in its formulation. It has been found that decisions made by groups are often superior to those of the average group member for two basic reasons. First, the sum total of the group's knowledge is greater and second, the group possesses a much wider range of alternatives in the decision process.

Group decision making also has other benefits. Participation in the decision-making process increases acceptance of the decision by group members and decreases the problem of persuading the group to accept the decision. This is especially true when change is being implemented in an organization. A more complete understanding of not only the decision but also the alternatives that were considered results from group decision making. This is especially helpful when the individuals who must implement the decision participate in the decision process.

However, some potential drawbacks can drastically limit the effectiveness of group decision making. One individual may dominate or control the group. This situation occurs frequently when the president or other "higher-ups" in the organization participate in the decision process. Because of their presence, many members become inhibited. The social pressures of conformity can also inhibit group members.

Competition can develop within the group to such an extent that winning an issue becomes more important than the issue itself. A final hazard results from the dynamics involved in group decision making. Groups can tend to accept the first potentially positive solution and give little attention to other solutions.

One additional interesting characteristic of group decision making concerns the risk that individuals are willing to take as compared with the risk taken by a group composed of the same individuals. Laboratory experiments have shown that decisions taken on a unanimous group basis are consistently more risky than the average of the individual decisions. This is somewhat surprising in view of the fact that group pressures often inhibit the members. One possible explanation is that individuals feel less responsible for the outcome of a group decision than when acting alone.

Figure 3-1 summarizes the positive and negative aspects of group decision making.



**FIGURE 3-1**  
**Positive and negative aspects of group decision making**

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Positive aspects of group decision making:	Negative aspects of group decision making:
1. The sum total of the group's knowledge is greater.	1. One individual may dominate and/or control the group.
2. The group possesses a much wider range of alternatives in the decision process.	2. Social pressures to conform can inhibit group members.
3. Participation in the decision-making process increases the acceptance of the decision by group members.	3. Competition can develop to such an extent that winning becomes more important than the issue itself.
4. Group members better understand the decision and the alternatives considered.	4. Groups have a tendency to accept the first potentially positive solution while giving little attention to other possible solutions.

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## CHAPTER 4

### SETTING OBJECTIVES

#### LEARNING OBJECTIVES:

After studying this chapter you will be able to:

1. Construct a hierarchy of objectives.
2. Formulate objectives.
3. Explain the characteristics of effective objectives.
4. Clarify and set managerial objectives.
5. Illustrate management by objectives (MBO).

The starting point of the managerial process is the determination of organizational objectives. *Objectives* are designed to give an organization and its members direction and purpose. It is very difficult to have successful management without well-defined objectives.

Objectives must be defined and made known in such a way that they can serve as a measure of success or failure. *Targets* and *goals* are commonly used interchangeably for the word *objectives*. It should also be recognized that some authors describe objectives as being somewhat more specific and short range than goals.

Few managers question the importance of objectives. Well-known and well-defined objectives can have motivating power in and of themselves. They can lead to action, guide managerial efforts effectively, and help to eliminate wasted efforts. Defining and making known the objectives are major challenges. All concerned must know what the goals are, and all management members must work together toward them. It seems that this could be taken for granted; but, too frequently, the objectives are vaguely stated, if at all. Another problem is the tendency of managers to get lost in immediate problems and lose sight of their objectives.

#### Hierarchy of objectives

Objectives are broken down into three different types in most organizations. These are: (1) organizational, (2) managerial, and (3) individual. Organizational objectives deal with the purposes, created values, and general direction of the organization. They are usually broad in scope and typically not precisely defined. Managerial objectives are more specific and deal with such factors as quantity and quality. “To increase production by 10 percent within the next six months” might be a managerial goal for a production manager. Individual objectives are personalized for each individual person. They outline what the individual is trying to achieve and accomplish.

These three types of objectives -- of the organization, of managers, and of individuals -- are blended together; that is, they are harmonized. The objectives of the organization should be established within the limits consistent with the values and beliefs considered desirable in society. Each manager's objectives should be in keeping with those of the organization; no cross-purpose should exist. And a manager's goals should mesh with the goals of colleagues. It is entirely possible for the same goals to be sought by more than one manager of an organization; in fact, this is a normal state of affairs. Further, objectives of each individual should be in harmony with those of the manager. This does not say that objectives of individual employees should be the same as those of the manager but merely that they should not be in conflict.

The harmonizing of objectives suggests a hierarchy of objectives, and such a hierarchy exists in every organization. At the top level are the objectives of the organization, sometimes called major objectives. Subordinate, but directly related to these major objectives, are departmental objectives which identify the goals of a particular departmental or organizational segment. In turn, departmental objectives have subordinate group objectives for a specific organizational unit; and, in similar manner, group objectives are segregated into unit objectives and, finally, into individual objectives. Ideally, each subsidiary objective contributes to the accomplishment of its immediately superior objective, supplying a thoroughly integrated pattern of objectives to all members of the organization.

### **Establishing objectives**

Differences of opinion exist regarding who should establish major or top objectives. Some take the view that such objectives should be formulated primarily by a board of directors, government, or social-environmental factors. That is, in a sense, they should be handed to the management team to achieve. The majority, however, hold that top managers must decide top objectives. At any rate, regardless of their initiation, top objectives must be interpreted, refined and expressed in terms understandable to the management members. Clearly it is best to have the managers, who will be responsible for the objectives, participate in defining the objectives. This helps ensure that they will understand, trust, and be loyal to the objectives.

Usually managers have multiobjectives, not a single objective. Ideally, a manager makes progress simultaneously toward several objectives; but, in practice, this does not always happen. The reasons are: (a) the objectives may be quite diverse and even in conflict with one another (i.e., quantity produced versus quality), (b) managers are most attentive to objectives in which they or their superiors have the greatest interest, and (c) unanticipated circumstances may arise to unbalance the accomplishment of multiobjectives. However, the competent manager strives to simultaneously move forward toward all assigned objectives, knowing that they are prerequisites to achieving long-range objectives. For objectives to be effective, certain characteristics are necessary. These are discussed in the following paragraphs.

### **Characteristics of effective objectives**

Objectives must be practical. The manager may well ask: What is the individual or group really capable of achieving? What is occurring in the industry? Should a conservative or an optimistic view be taken? If conservative objectives are set they may not spur employees toward greater achievement; yet if the objectives are overly optimistic they may not serve as a challenge because employees do not believe them to be attainable. The consensus is that objectives should be challenging and attainable but should require some stretching and reaching by employees.

Objectives must have precise meaning for the manager. To state objectives in vague terms, such as “to make constructive corporate citizens” or “to make profits,” leaves much to be desired. The manager needs to know how many citizens with what characteristics within what period, or how much profit in which products for what period. Only specific objectives, pointing out definite ends toward which to strive, can give the manager an effective basis for action. What resources to use, what premises and risks to assume, what the probabilities of success are, and what to do are all more easily determined when the objectives are specific.

Quantified goals are preferable; for example, the goal is best defined as a given profit percentage on sales dollars or a certain return on assets. Many objectives can be quantified, and those not directly quantifiable usually can be indirectly quantified. For instance, management development, an objective not normally directly measurable, can be indirectly quantified by reporting the number of qualified promotions. Normally, several indicators which correlate and verify the answer are employed when indirect quantification is applied.

Many managers find long-range objectives (over five years) helpful in determining an organization’s requirements for production facilities, sales, financing, and staffing against the probable environmental changes. With regard to specificity and timing, long-range objectives may differ from the purpose of an organization. The former (long-range objectives) usually refer to a stated time period; the latter (purpose) may extend over a considerable and indefinite period. They must be logically related, but this requirement can pose difficulties. If the organization’s purpose is to triple its net capital worth within 10 years, an organization may achieve this by any or all of the following long-range objectives: buying established firms, merging, or expanding internally. Which objectives should be pursued; if more than one, in what sequence; and how should they be coordinated?

### **Setting managerial objectives**

Although managerial objectives can range widely from situation to situation, they normally fall into one of four general categories: (1) profit-oriented, (2) service to customers, (3) employee needs and well-being, and (4) social responsibility. It should be noted that even in not-for-profit organizations, managers must be concerned with profit in the sense that they generally must operate within a budget. Figure 4-1 lists some potential areas for establishing managerial objectives in most organizations.

### **Management by objectives (MBO)**

One approach to setting objectives that has enjoyed considerable popularity in recent years is the concept of management by objectives. MBO is a philosophy of management that is based on converting organizational objectives into individual objectives. It is based on the assumption that establishing personal objectives elicits employee commitment, which leads to improved performance. MBO has also been called *management by results*, *goals and control*, *work planning and review*, and *goals management*. All these programs are similar and follow the same basic process.

MBO works best when the objectives of each organizational level are directly related to the objectives of the next highest level. Such an approach ensures that the various levels within the organization have a common direction. Thus, the objective-setting process under MBO requires a high degree of participation and collaboration among the various levels of the organization. This results in several benefits. First, the individuals at each level in the organization become more aware of overall objectives. The better individuals understand the overall objectives, the better their understanding of their role in the total organization will be. MBO also requires that the objectives for an individual be jointly set by the individual and the superior. Such an approach results in “give-and-take” negotiating sessions between the individual and the superior. Furthermore, achieving self-formulated objectives can improve motivation and, thus, job performance.

Setting objectives in MBO is not always easy, and problems occur frequently. Often the largest problem is deciding the specific areas in which to set objectives.

After the objectives have been jointly established by the superior and the subordinate, a plan of action for achieving the objectives should be developed. Generally this involves the following steps:

1. Determine the major activities necessary to accomplish the objective.
2. Establish subactivities necessary for accomplishing the major activities.
3. Assign primary responsibility for each activity and subactivity.
4. Estimate time requirements necessary to complete each activity and subactivity.
5. Identify additional resources required for each activity and subactivity.

After establishing objectives and outlining the actions necessary to accomplish the objectives, individuals are allowed to pursue their objectives essentially in their own manner. Therefore MBO is largely a system of self-control. Obviously, there are policy constraints on individuals, but basically people achieve goals through their own abilities and effort.

Periodic progress reviews are an essential ingredient of MBO. This includes providing each employee with feedback on actual performance as compared to planned performance (objectives). The importance of this personal feedback cannot be overestimated.

**FIGURE 4-1**  
**Potential areas for setting objectives**

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1. Profitability can be expressed in terms of profits, return on investment, earnings per share, or profit-to-sales ratios, among others. Objectives in this area may be expressed in such concrete and specific terms as “to increase return on investment to 15 percent after taxes within five years” or “to increase profits to \$6 million next year.”
  2. Markets may also be described in a number of different ways, including share of the market, dollar or unit volume of sales, and niche in the industry. To illustrate, marketing objectives might be “to increase share of market to 28 percent within three years,” or “to sell 200,000 units next year,” or “to increase commercial sales to 85 percent and reduce military sales to 15 percent over the next two years.”
  3. Productivity objectives may be expressed in terms of ratio of input to output (for example, “To increase number of units to X amount per worker per eight-hour day”). The objectives may also be expressed in terms of cost per unit of production.
  4. Product objectives, aside from sales and profitability by product or product line, may be stated as, for example, “to introduce a product in the middle range of our product line within two years” or “to phase out certain products by the end of the next year.”
  5. Financial resource objectives may be expressed in many different ways, depending upon the company, such as capital structure, new issues of common stock, cash flow, working capital, dividend payments, and collection periods. Some illustrations include “to decrease the collection period to 26 days by the end of the year,” “to increase working capital to \$5 million within three years,” and “to reduce long-term debt to \$8 million within five years.”
  6. Physical facilities may be described in terms of square feet, fixed costs, units of production, and many other measurements. Objectives might be “to increase production capacity to 8 million units per month within two years” or “to increase storage capacity to 15 million barrels next year,”
  7. Research and innovation objectives may be expressed in dollars as well as in other terms: “to develop an engine in the (specify) price range, with an emission rate of less than 10 percent, within two years at a cost not to exceed \$150,000.”
  8. Organization changes in structure or activities are also included and may be expressed in any number of ways, such as “to design and implement a matrix organizational structure within two years” or “to establish a regional office in the South by the end of next year.”
  9. Human resource objectives maybe quantitatively expressed in terms of absenteeism, tardiness, number of grievances, and training, such as “to reduce absenteeism to less than 4 percent by the end of next year” or “to conduct a 20-hour in-house management training program for 120 front-line supervisors by the end of 2008 at a cost not to exceed \$200 per participant,”
  10. Customer service objectives may be expressed in explicit terms such as “reduce the number of customer complaints by 30 percent by the end of the year” or “reduce delivery time from three to two weeks by the end of this quarter.”
  11. Social responsibility objectives may be expressed in terms of types of activities, number of days of service, or financial contributions. An example might be “to hire 120 hard-core unemployables within the next two years,”
- 

The manner in which the feedback is given is important. If the manager provides the feedback in a hostile manner, then performance may be reduced. The purpose of these reviews is to compare planned performance to actual performance and should not be used to degrade the individual. Performance appraisal under MBO is discussed at length in Chapter 19.

Before departing from the subject of MBO, its basic requirements should be summarized. Many organizations proudly proclaim to have successfully implemented MBO when, in fact, they have met very few of the actual requirements. In its simplest form an MBO system must meet the following three minimum requirements:

1. Individual objectives are jointly set by the subordinate and the superior.
2. Individuals are periodically evaluated and receive feedback concerning their performance.
3. Individuals are evaluated and rewarded on the basis of objective attainment.

In a nutshell, when making a change of policy as great as from Theory X to MBO, ascertaining that top management is committed to the change is the essential first step. Establishing and communicating organizational goals, obtaining the trust of subordinates, educating employees about MBO, assisting individuals in goal setting, ensuring that employees have needed resources, conducting informal reviews, making performance evaluations, and establishing new employee goals are additional steps an MBO manager might take.

## CHAPTER 5

### THE WORK OF PLANNING

#### LEARNING OBJECTIVES:

After studying this chapter you will be able to:

1. Define *planning*.
2. State why planning is crucial.
3. Design and implement a formal plan.
4. Describe how important the timing aspect of planning is.
5. Differentiate among the types of plans.

Present-day managers must operate in a highly dynamic environment where change is the rule, not the exception. Planning allows the manager to prepare for change. The planner is the one with the greatest opportunity to bring together all the resources of an organization into a more effective entity. In short, planning is indispensable. It is the intellectual arm of our future growth.

It can be reasoned that planning is basic to the other management functions. A manager performs the managerial functions to realize wanted objectives, the means for achieving them being set up by planning efforts. In other words, planning is the foundation of management. No manager can manage successfully over a period of time unless he or she has done some degree of planning.

#### Definition of planning

*Planning* is the process of deciding what objectives to pursue during a future time period and what to do in order to achieve those objectives. In this context the objective-setting process described in Chapter 4 is viewed as a part of the planning process. Some think of planning in the more narrow sense of deciding what course of action to take once the objectives have been established. Whether or not the objective-setting process is viewed as a part of the planning process or as a precedent of it, objectives must be established before the planning process can be completed. Obviously, it is not possible for a manager to outline a course of action for reaching an objective if he or she does not know what the objective is. Since objectives were covered extensively in the previous chapter, this and the next two chapters will focus on the action part of the overall planning process.

Some people express planning as an organized approach to future problems and describe it as evolving the present design for future problems and describe it as evolving the present design for future action. Planning is not concerned with future decisions but rather with the



future impact of today's decision. Planning bridges the gap between where you are and where you want to go. It answers, in advance, the who, what, when, where, why, and how of future actions.

Effective planning should be based on facts and information and not on emotion or wishes. Facts relevant to the situation under consideration are related to the manager's experience and knowledge. Reflective thinking is required; imagination and foresight are extremely helpful. A planner must be able to visualize the proposed pattern of activities clearly. Planning is basically an intellectual process. By its use, managers try to look ahead, anticipate eventualities, prepare for contingencies, map out activities, and provide an orderly sequence for achieving the objectives.

Adequate planning should take place before acting. To reverse this sequence means that action is being confused with accomplishment. In terms of effort, a person shuffling papers can be working as hard as one filing papers. The significant difference is the usefulness of the achievement. The need is to think before taking action. What a manager thinks greatly influences what actions are taken. This is why planning is so important.

Every manager has a planning function to perform. Planning is not concentrated among top-level managers only. Although it is true that top managers may devote more vital issues than to middle- and lower-level managers, the fact remains that every manager has planning to perform.

It follows then that planning exists in most organizations, regardless of their size. In the larger organization its presence is more apparent, due to some managers giving all, or a good portion, of their time to planning efforts. In contrast, in small organizations, planning is commonly more informal -- the general manager does most of it.

Planning efforts should be continuous; planning is a never-ending activity. All plans are tentative and subject to revision and amendment as new facts become known. Common practice is to reexamine plans regularly and, if necessary, to modify them promptly in view of the new situations. Planning is just as important when things are going well as when current troubles abound.

### **Why plan?**

Perhaps the primary argument for planning is that the development of a plan provides the planner with guidance and advice. Ferreting out the facts; determining the course of action to follow, and estimating the time, energy, and materials needed are of themselves positive forces toward good management. Planning, by its very nature, helps to achieve goals. Planning reduces random activity and needless, overlapping efforts.

Many managers point out that planning provides for effective utilization of available facilities of an organization. For any given period, the best use is made of what is available.

This condition is envisioned, put together mentally, and offered in a communicative form by the planner. Guesswork by uninformed personnel is reduced.

Furthermore, planning assists a manager in attaining confident and aggressive leadership. By means of planning, managers successfully cope with their affairs and problems, rather than allowing them to dilute and negate their efforts. Not to plan is to manage as a result of events rather than by use of foresight, influence, and action.

In addition, “what if” questions are answered by planning. Such answers permit a manager to see through a complexity of variables that affect what action should be taken. Typical questions are “What would happen to our costs if we close plant No.3?” Judgment, various “studies of the situation,” and/or quantitative techniques and computers can be used to help answer such questions. Finally, planning can point out the need for future change. It can reveal opportunities for new services. It guides management thinking to future desirable activities and spells out the best way to make the shift and what must be done to attain goals.

## Formal planning

All managers plan. The difference lies in the methods employed and the extent to which they plan. Most planning is carried out on an informal or casual basis. This occurs when planners do not record their thoughts but rather carry them around in their heads. A *formal plan* can be defined as a written, documented plan developed through an identifiable process. Figure 5-1 highlights the strengths of formal planning as compared to informal planning.

**FIGURE 5-1**  
**General characteristics of formal planning versus**  
**Informal planning**

<i>Formal planning</i>	<i>Informal planning</i>
Rational	Emotional
Systematic	Disorganized
Regular intervals	Sporadic episodes
Future improvement	Past evaluation
Hard document	Memory

The absence of a normal planning system often results in continuous fire-fighting behavior by managers. Unless a formal system has been established with objectives and schedules, daily problems generally receive precedence over planning.

Additionally, formal planning enhances the integration of managerial activity in organizations. A formal planning process forces collaboration between organizational subunits, such as the functional areas of marketing, production, finance, and accounting.

Of course the sophistication of formal planning processes can vary greatly. One organization might have a 2-page formal plan while another has a 200-page document. The appropriate degree of sophistication depends on the needs of the individual organization. The environment, size, and type of business are factors which typically affect the planning needs of an organization.

### **The timing aspect**

The timing aspect of planning is extremely important. There is a proper time for most actions. Help in recognizing this proper time is provided by planning. Most plans can be conveniently divided into phases, or successive time periods, for planned activities to take place. Thinking in terms of phases in planning helps to: (a) reduce the plan to a simple series of actions, (b) keep the planned efforts on schedule, (c) coordinate the separate activities within the plan, and (d) insure acceptance of the plan by all concerned or affected by it.

Assigning specific time periods to each component of a plan is also essential. When and within what time limits the activities must be accomplished are equally as important as the determination of what must be done. This assigning of time periods, or scheduling, gives vitality and practical meaning to a plan. But sufficient flexibility in the assigned due dates should be provided to permit adjustments as needed in the execution of the plan.

For greatest practicality, plans should: (a) feature simplicity, be easy to understand, be profusely illustrated, and provide pertinent examples; (b) point out their advantages to each of the adopters; (c) fulfill a recognized need and be within the capability of the management team; (d) pinpoint and contribute to the accomplishment of the objective; and (e) show clearly the respective responsibility and authority required for each group or individual, as well as the relationships among participants in the plan.

### **Types of plans**

Because planning has been applied to all types of activities, there are numerous types of plans. Some plans deal with broad areas, some with narrow ones; some concern space considerations, whereas others emphasize performance, cost, quality, or another major attribute.

Plans can be conveniently classified into the following:

- 1. Growth plans.** These plans chart the direction in which the organization is going, its goals, and the rate of expansion sought. The rational way to ensure desirable growth is by the commitment of competent management members to growth and by planning for that growth. In turn, this requires knowing where the organization is, where it is going, and where it should go; what major problems now stand or will stand in the way of achieving its goals; the time phasing for implementing the growth plans; and what specific activities are required to fulfill them.

Specific courses of action, tailored to the individual's needs and the organization's requirements, are necessary for adequate leadership and the development of management members to take place.

**2. Profit plans.** Commonly, this type of plan is focused on profit per product or group of products. Headed by a profit planner, the entire plan points toward a minimum effort and expenditure in order to realize maximum profits. The normal time span for profit plans is one to three years.

**3. User plans.** How to market a selected product/service, or to serve a selected market better, is answered by a user plan. Commonly called *product planning* or *market planning*, this type of plan is popular. Most people understand the subject being planned for, and user plans are widely used to illustrate planning techniques. The period covered by user plans is generally one year.

**4. Personnel-management plans.** Plans formulated to attract, develop, and retain management members are growing in importance. It is being recognized that managerial personnel cannot be left to chance; planning is essential.

The classification of plans according to the period of time they cover is common. This leads to designating plans as long range -- those dealing with three or more years -- and short range -- those involving one year or less. Plans covering from two to five years are termed long or short depending on the organization; some use the term *intermediate plans*, but this is not widely used.

Most managers like to use a time period sufficient to justify the dollar expenditure required by the plan. That is, they want the plan to include the time needed to recover their total dollar commitments. This is frequently expressed in terms of recovery costs. Acceptance of the commitment concept means that planning periods will vary considerably, depending on such things as the organization, the subject area planned for, and the beliefs of the top manager.

Further identifications of plans are orientational and operational plans. Usually, they are a particular type of either a long-or short-range plan. An *orientational plan* seeks to reveal the organization's current goals, activities, strengths, personnel, and relationship with customers. With these types of data as a background, a projection is made of what the future expectancies might be. In turn, this leads to an evaluation of whether this is where the managers want the organization to be. In contrast, an *operational plan* deals with current activities. It answers: Who is going to do what? The activation of physical resources -- facilities, materials, and personnel -- is dealt with. The planning is tangible, definite, and specific.

## CHAPTER 6

### PREMISES, STRATEGIES, AND POLICIES

#### LEARNING OBJECTIVES:

After studying this chapter you will be able to:

1. Develop and prescribe a system of forecasting.
2. Distinguish between premises and constraints.
3. Illustrate and discuss the types of premises.
4. Differentiate between strategic planning versus tactical planning.
5. Explain the concept of strategy.
6. Demonstrate and list specific strategies.
7. State how to develop policies.
8. Write and recommend operating procedures and rules.

#### Forecasting

*Forecasting* is the attempt to predict, through study and analysis of currently available pertinent data, future potential operations and conditions. It also tries to anticipate the future state of the social environment in which the organization will operate. Although all forecasts are subject to error and must rely to some extent on guesswork, forecasting is an essential part of management planning. To reduce the margin of error, managers must examine with great care all assumptions underlying their forecasts. Then it is advisable to be reasonable about what is expected from the forecast, recognizing that it will not be perfect.

Skill in forecasting is enhanced by (a) using orderly procedures in the investigation of the available pertinent data on which the estimates are made, (b) enlisting the interest and participation of key managers and personnel in the preparation of the forecasting, (c) periodically checking actual results against forecasts and running down reasons for major differences, and (d) refining and improving the forecasting effort as experience is gained and new forecasting tools become available.

Figure 6-1 outlines how an organization's sales might be forecast. Note that data from many sources are gathered into a unified corporate estimate.

#### Premises and constraints

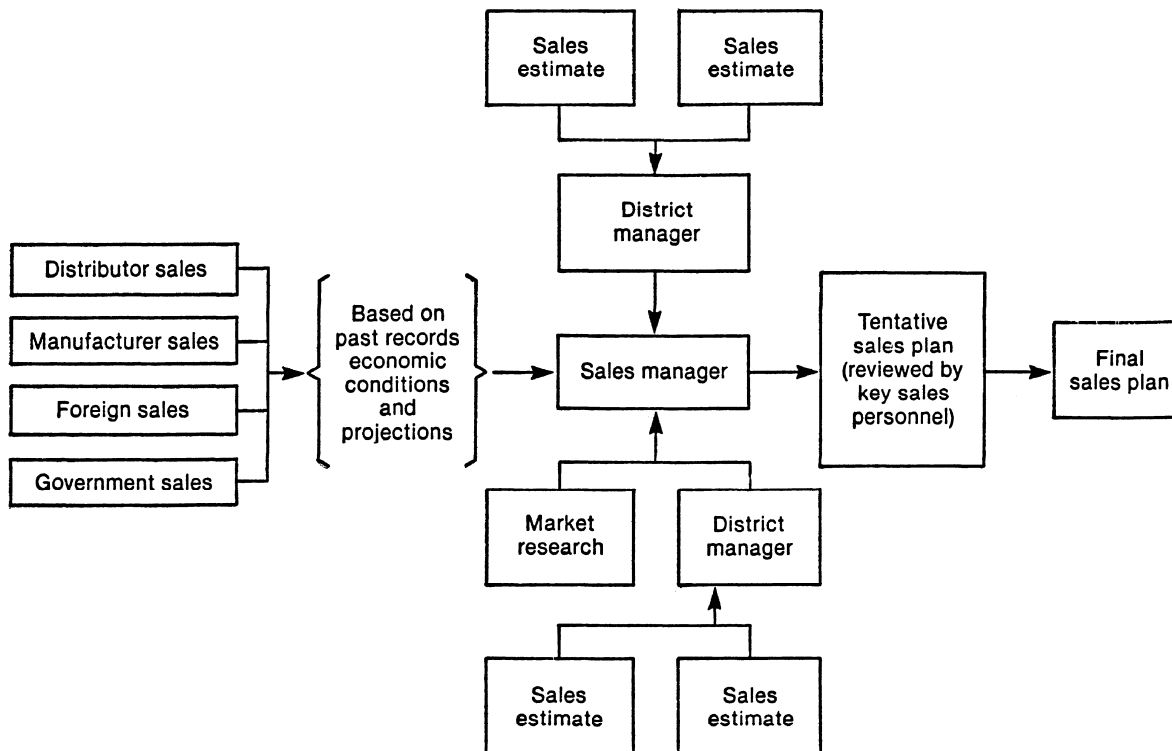
To formulate the actual plan, a manager uses premises and constraints. Their use tends to reduce the uncertainty inherent in the future and to supply identifiable foundations on which planning can be based. A *premise* is an assumption providing a background against which estimated events affecting the planning are expected to take place. Such assumptions must be

made; otherwise planning would be impossible. For example, one could not draw up a master plan for an organization if one did not assume future markets, prices, taxes, and population growth.

*Constraints* tend to confine the planning within areas considered appropriate and feasible by the planner. To illustrate: The basic resources at the disposal of the manager, the managerial philosophy followed, and attitudes employed constrain the manager's planning efforts.

Both premises and constraints create boundaries within which the planning takes place. However, constraints condition the planner's thinking, and supply a foundation on which plans are built, to a greater degree than do premises. Constraints are established more by intuition, judgment, attitude, and belief than are premises.

**FIGURE 6-1**  
**Developing sales forecasts**



Premises and constraints do not generate specific plans. They provide the means for determining and assessing the future environment. It is important to realize that all planning premises are based on predictions. However, some premises involve relatively little uncertainty, whereas others have great uncertainty.

Prediction is used to establish premises, not plans. Planning has a much broader connotation and serves a different purpose from predicting. It is possible to predict without planning and, likewise, to plan without predicting. To recognize this fact helps to distinguish the controllable from the noncontrollable elements in planning efforts.

Within an organization, several different planning premises may be used, but these must be correlated in order to achieve integration of the overall planning. Furthermore, as time advances, the validity of the premises can be determined and subsequent adjustments can be made. Frequently, additional premises are added. This process of reviewing premises is continuous.

### **Types of premises**

To prepare an accurate forecast, the manager must have information relating to the following:

1. Environment. Data on economic, political and social factors influencing the climate in which the organization must operate.
2. Competition. Information on: (a) the industry and (b) the accomplishments and activities of member firms within that industry.
3. Individual organization. Identification of the organization's strengths, weaknesses, characteristics, accomplishments, and ambitions.

Not all information is useful. From the information available, the planner must select what appears relevant to the task at hand. Too much or too little information can hamper forecasting. One must guard against hastily assuming that no facts are available about a certain activity, when adequate research would reveal that pertinent data can be found.

Facts contribute to the establishing of premises and the formulating of plans. To a lesser degree, they help shape the planning constraints that are adopted. But it should also be remembered that intuition, judgment, and guesswork play a part in most plans. The manager does more than find facts and tie them together into a neat package.

Planning premises are numerous. Some are tangible, others intangible; some external to the organization, others internal; and some are vital, whereas others are of minor importance. The following premises, applicable to nearly every enterprise, serve to indicate the types used in planning:

**1. Government controls.** The activities of an organization are prohibited, regulated or prompted by various laws and regulatory measures of government. The manager must anticipate the immediate future and long-range effect of such governmental regulation.

**2. Government fiscal policy.** The role of government in income distribution, taxation, and interest rates exercises important influences that the manager must take into account in making premises and plans.

**3. General business environment.** Premises about employment, national income, and productivity are representative. Data and well-considered estimates for such activities are available, and the planner can tap numerous sources to obtain realistic projections.

**4. Price levels.** The course of future price levels affects economic activity, inventories, consumers' confidence, and market development. Will prices rise, stabilize, or decline, and at what rate? Price is the universal regulator of economic activity.

**5. Public attitudes and behavior.** These are representative of somewhat intangible, yet important, areas in which premises must be drawn. How producers, consumers, groups, and individuals view and react to bigness in business, freedom of choice in the marketplace, and a "fair" profit, for example, are important considerations in planning.

### **Strategic planning versus tactical planning**

Strategic planning and tactical planning are two concepts widely used in today's management. *Strategic planning* covers a relatively long period of time, includes the formulation of objectives, and affects many facets of the organization. *Tactical planning*, covering a relatively short period of time, is primarily concerned with how to attain objectives and is usually very specific in nature.

Stated succinctly, strategic planning answers the question, "Where should we be going?" In contrast, tactical planning answers, "How will we get there?"

Strategic planning generally is reserved for top-level managers since it involves the determination of overall direction. Strategic planning begins by asking questions with reference to the purpose and operations of the organization. What products and services are we trying to provide? Should we be doing everything we are now? What is happening socially, politically, and technologically that could have serious impact on us? Answers to questions such as these aid in determining whether what is now being done should be done, deciding what actions should be retained or added, and putting these ideas into plans.

Common topics of strategic planning are the purpose of the organization, major environmental influences, the demand for the product or service, and competitive practices. Several advantages occur from strategic planning such as: (1) present mistakes and weak areas can be corrected; (2) assistance in arriving at decisions about the right things at the right time is provided; (3) aid in coping with future contingencies is gained; and (4) future actions to take in order to affect the future as desired are identified and highlighted.



The goal of strategic planning is to develop several strategic alternatives from which the strategic choice is made. Some alternatives may be expressed as: the size of the organization should reflect sales of \$25 million; the amount of earnings before taxes should be 20 percent on sales; or the minimum return on investment should be 15 percent.

Turning now from strategic planning to tactical planning, the latter consists of determining the tasks to be done, establishing who is responsible for what, allocating resources, setting quantitative measurements for each task, and implementing the planned actions with adequate exercise of controls to evaluate progress. Tactical planning is supportive to strategic planning. The combination of strategic and tactical planning makes it feasible for employees to have an understanding of the various activities of an organization and why these activities will be performed. *Note:* Operational planning is a type of short-range or tactical planning performed by lower management. It involves the development of action plans by which strategies and policies are executed.

## **Strategy**

The term strategy connotes choosing how resources may be used most effectively to reach a stated goal. The strategy is planned to adjust to both internal and external environments. Expressed another way, the strategy states which factors will be emphasized in reaching the objective.

There are four basic types of top level strategies. These are:

**1. Retrenchment strategies.** Retrenchment strategies can be one of three basic types: to reduce the level of operation of the organization; to become a captive of another organization; or to sell or dissolve the organization. Retrenchment strategies usually are chosen by default when no better alternative exists.

**2. Stability strategies.** Stability strategies are followed when the organization is satisfied with its present course of action. Management may make efforts to eliminate minor weaknesses, but generally its actions will be such as to maintain the status quo.

**3. Growth strategies.** Growth strategies are followed when the organization makes a conscious effort to grow or expand as measured by sales, product line, number of employees, or other similar measures. Growth strategies have dominated the philosophy of many American organizations since World War II. It has been a widely held opinion that an organization must grow to survive. This opinion is most often based on the belief that a smaller organization cannot be competitive and will eventually be gobbled up by larger organizations. Thus, many organizations have followed growth strategies because they were afraid not to grow. Furthermore, growth strategies have been socially very acceptable, especially in the postwar era.

**4. Combination strategies.** Combination strategies are followed when the organization uses any combination of the aforementioned strategies. For example, it is certainly feasible for

an organization to follow a retrenchment strategy for a short period of time due to general economic conditions and then pursue a growth strategy once the economy strengthens. The obvious combination strategies include (a) retrench, then stability; (b) retrench, then growth; (c) stability, then retrench; (d) stability, then growth; (e) growth then retrench, and (f) growth, then stability.

### **Specific Strategies**

Although strategic planning, in its present context, is carried out almost exclusively by top managers, all levels of managers may develop a strategy for accomplishing their specific objectives. Some examples of strategies which may be used by all levels of managers are:

1. Strike while the iron is hot. Take prompt action while the situation is propitious; tomorrow may bring opposition and difficulties. Be prepared and act when a favorable situation develops.
2. Time is a great healer. Many problems disappear or take care of themselves if given sufficient time. Do not hurry or insist that certain actions take place; wait until they dilute themselves or begin moving toward the actions included in the plan.
3. Bore from within. Find out those employees sympathetic to a specific course of action and use them to spread this desired point of view. Give indirect assistance to this dedicated group. When a sufficient number of followers is obtained, proceed with the implementation of the plan.

### **Policies**

*Policies* are broad, general guides to action which relate to goal attainment. In this light, policies give guidance as how management should order its affairs and its attitude toward major issues; they indicate the intentions of those who guide the organization. In other words, policies define the universe from which future strategies and plans are derived. "It is the policy of the public relations department to answer in writing all written customer complaints," is an example of a policy under this interpretation.

Policies are generally not as action oriented as strategies and generally have a long life. Policies generally do not indicate precisely how to attain an objective but rather they outline the framework within which the objectives must be pursued.

Policy statements often contain the words *to ensure, to follow, to maintain, to promote, to be, to accept*, and similar verbs. For example, the ABC Company may have a policy "to accept all returns that are accompanied by a sales slip." Such a policy outlines a general guideline to be followed in pursuing the company objectives related to profit and sales.

Policies exist at all levels of an organization. A typical organization has some policies that relate to everybody in the organization and some policies that relate only to certain parts of the organization. For example, a policy such as “this company will always try to fill vacancies at all levels by promoting present employees” would relate to everyone in the organization. On the other hand, the previously described policy of a public relations department requiring that all customer complaints be answered in writing is a policy which relates only to public relations department personnel.

In essence, policies give predetermined boundaries, but the manager has freedom to make decisions within these stated limits. Every organization needs enough policies to supply the basic guides for each major classification of its activities. Such policies should be individualistic and reflect the unique characteristics of the management members, yet should also be integrated within the organization.

Policies help the manager to make decisions and yet stay within limits that are believed desirable. Their use: (a) enhances the confidence of the management member, (b) assists communication, (c) implements the effective utilization of authority, and (d) helps develop managerial skill.

### **Procedures and rules**

Procedures and rules differ from policies only in degree. In fact procedures and rules may be thought of as low-level policies. A *procedure* is a series of related steps or tasks expressed in chronological order to achieve a specific purpose. Procedures define in step-by-step fashion the methods by and through which policies are achieved. They outline precisely the manner in which a recurring activity must be accomplished. Procedures generally allow for little flexibility and deviation. A company’s policy may be to accept all customer returns submitted within a month of purchase; company procedures would outline exactly how a return should be processed by the salespeople. Well-established and formalized procedures are often known as standard operating procedures (SOPs). For example, standard operating procedures may be established for handling customer complaints.

*Rules* require that specific and definite actions be taken or not taken with respect to a given situation. Rules leave little doubt concerning what is to be done. Unlike policies they permit no flexibility and deviation. Unlike procedures, rules do not necessarily specify sequence. For example, “no smoking in the conference room” is a rule.

As can be gleaned from the above discussion, procedures and rules are actually subsets of policies. All provide guidance. The differences lie in the ranges of applicability and the degree of flexibility. For instance, a no-smoking rule is much less flexible than a procedure for handling customer complaints, which is likewise less flexible than a hiring policy.

## **CHAPTER 7**

### **PUTTING PLANS INTO ACTION**

#### **LEARNING OBJECTIVES:**

After studying this chapter you will be able to:

1. Name who does the planning.
2. Facilitate the process of getting started.
3. Formulate the necessary questions to be answered.
4. Outline the key steps to take action.

#### **Who does the planning?**

Who performs planning? The answer: every manager. Some do all or most of their own planning, others share the work, whereas still others have specialists and subordinates perform the lion's share of the planning efforts. No single or simple arrangement applies equally to all organizations, nor is any approach to planning consistently followed. The personal wishes of the management members, custom, and individual circumstances determine, for the most part, the practice in any specific case. However, in general, managers at the top level devote their planning time to plans of relatively long duration (six months or more), whereas managers at the bottom levels concentrate on plans of relatively short duration (several hours to several months).

The trend is toward wider participation in planning. The typical manager today seeks facts, opinions, ideas, and reactions in formulating plans. It is believed that, in this way, better plans are evolved, human relations are promoted, and endorsement and enthusiasm for the plan by those who are going to use it are won.

A common arrangement is to have a basic planning committee supplemented by project-planning teams. The committee consists of top management members whose duties include clarifying major goals and integrating basic recommendations, submitted primarily by the project teams. Each team consists of one member from the planning committee, plus managers who have charge of activities pertinent to the project team's work. Members of project teams represent diverse backgrounds and experiences. The responsibilities include gathering information, recommending courses of action, and studying basic questions supplied by the planning committee. In addition, both committee and project team members encourage other management members, especially technicians and specialists, to participate in the planning.

More and more organizations are setting up a department of planning. The duties of such a department vary widely. Some are limited to a specific type of planning, such as financial planning, whereas others develop long-range inclusive plans for the company. A planning

department adds status to planning work, and it provides a center for motivating others to plan by offering suggestions, supplying information, and assisting in the formulation of practical plans.

## **Getting started**

The performance of planning has certain characteristics worthy of note. They include:

**1. The place to start planning.** It is better to start planning with the major issues. This not only permits a broad structure but also resolves important considerations essential for subsequent planning. Frequently, the planner finds it advantageous to work backwards from the objective, as in scheduling. This approach give emphasis to the objectives. Some advocate the starting of planning at the top organization level, whereas others suggest starting at the bottom level. Starting at the top give needed direction and encouragement to all planning and is the preferred viewpoint. Starting at the bottom supplies plans quickly where they frequently are most needed and where the issues can be fully comprehended.

**2. The influence of the human element.** The success or failure of any plan is directly related to the manner in which employees do their respective jobs. Strong belief in the plans and acceptance of responsibilities set forth are foremost in the effectiveness of most plans. Because of the human element involved, good plans can fail; likewise, mediocre plans can succeed.

**3. The makeup of components.** Plans contain two types of issues, (a) variable and (b) constant. The former regulate the number of alternatives derived from a plan and normally deserve the greatest amount of attention by the planner. Also, a plan contains (a) tangible factors and (b) intangible factors. The former are measurable and permit valid comparisons and summaries. In contrast, intangible factors are far less measurable, reflect chiefly the experience and judgment of the planner, and represent most of the risk of the plan.

**4. The tentative process of planning.** Most plans are evolved slowly. They start with initial concepts and data. These are refined, integrated, added to and subtracted from, and portions are changed completely, until the final plan is formulated. Planning is a trial-and-error, how-would-this-work type of activity. It is not solely a logical and rational activity.

## **Questions to be answered**

Frequently the approach used in planning is to ask questions, the answers to which suggest not only material that should be included in the plan, but areas for further study to make the plan complete. Many different lists of questions have been prepared to help the planner, but all such aids tend to cluster around the “Five W’s and the How” questions. These always should be asked in the following sequence:

1. **Why** must it be done? This highlights the real need for the work and the essentials of it.

2. **What** is necessary? The types and amounts of activities called for, as well as the machine and equipment requirements, are disclosed by the answers to this question.
3. **Where** will it take place? This stresses space considerations. In an office, in the field, in a Branch office -- at what location must the work be done?
4. **When** will it take place? This stresses time considerations. When should each segment of the work start and stop? Scheduling and simultaneous operations are discovered by answering this question.
5. **Who** will do it? This question is designed to reveal the type and availability of skill and experience needed to perform the planned work satisfactorily.
6. **How** will it be done? This question directs attention to the proposed manner of work accomplishment. Actually it serves a check on the entire plan and as a test of the thoroughness with which the first five questions have been answered.

### **Key steps**

Most planning is characterized by key steps that serve as a common thread in this basic managerial effort, as follows:

1. Visualize and state the problem which the planning is intended to help solve. It is vital that the planners be able to vividly see what they are trying to accomplish, what major hurdles or present conditions appear to require modification or elimination, and what additions seem desirable. Seeing the problem clearly is fundamental to good planning.
2. Obtain and classify usable information about the proposed activities. Ideas and concepts of what the plan should include are obtained from records, observations, interviews, experience, practices of other organizations, magazine articles, research reports, and selected books. However, what has been done in the past should not necessarily be continued. To render information useful, it must be classified. This, in turn, requires careful examination of the information to reveal its relevancy to the planning at hand and also the pertinent relationships among the various bits of information.
3. Select planning premises. The planner's beliefs, the purpose of the plan, and the information assembled will suggest what premises to assume. Premises, always present in a plan, supply the needed assumptions against which it is believed future actions of the plan will take place. They should be identified so that the plan can be completely understood.
4. Draw up several plans and from these choose the plan to follow. There are several means of achieving every goal. The various possibilities are revealed in this step. Much creativeness may be required to do so, but it is usually best to develop several alternative plans.

From the array of possible plans, a choice is made. Cost, adaptability, efficiency, custom, and personal preference are given top priority in making the final choice.

5. Determine details and timing of the selected plan and arrange for proper follow-up. The precise sequence of activities -- who does what and when, instructions, paper forms, and needed supplies -- are not worked out. Results obtained are the true measure of the appropriateness of the plan. To ensure satisfactory results, provisions for adequate follow-up are developed.

## CHAPTER 8

### ORGANIZATION CONCEPTS

#### LEARNING OBJECTIVES:

After studying this chapter you will be able to:

1. Define *organizing*.
2. Elaborate on and facilitate a division of labor.
3. Identify and describe the components of organizing.
4. List and diagram the organization structure.

#### What is organizing?

*Organizing* is the process of grouping activities for attaining objectives and assigning each grouping to a manager who has the authority necessary to supervise the group members. Organizing is performed to assemble and arrange all required resources, including people, so that the required work can be accomplished successfully. Actually, people are foremost in importance and interest. By means of organizing, people are united in performing interrelated tasks. The overriding purpose of organizing is to assist people in working effectively together.

A manager must know what activities to manage, who helps and who is helped, the channels of communication, the clustering of work that is followed, the relationships among different work groups, and the general makeup of the work group. Answers to these questions are given by effective organizing. Further, all employees need to (a) have an accurate and concise understanding of their job's requirements and (b) know their relationship with the immediate manager and also with other nonmanagers in the work group. Again, organizing provides this information.

Organizing is necessary because the work to be done is too much for one person to handle. Hence, helpers are obtained, and the problem of gaining effective group action is created. Many minds, hands, and skills may be assembled, and these must be coordinated not only to accomplish the defined work but also in the most effective manner. In these efforts, the typical organizer strives to achieve a total effect greater than the sum of its separate components.

Historically, organizing pervades all human activity because of the individual's dependency on society and because of our desire to gain protection against antisocial forces that threaten us. Writings of ancient history are filled with references to organizing as it affected armies, governments, and religious groups. This interest has continued unbroken right down to the present.

Prominent throughout the centuries, and especially so at the present time, is the underlying and knotty question of the proper balance between organizing efficiency and



individual freedom. Can a person possess freedom and still be a part of an efficient organization? Specifically, how is the proper balance to be achieved between freedom and organizing efficiency? For maximum benefits, how much guidance and restraint should be blended with individual initiative and freedom? These questions are difficult ones. Unfortunately no universal answer exists. Every attempted answer must be heavily qualified.

## **Division of labor**

Organizing is basically a process of division of labor. Labor can be divided either vertically or horizontally. *Vertical division of labor* is based on the establishment of lines of authority and defines the levels that make up the vertical organizational structure. In addition to establishing authority, vertical division of labor facilitates the flow of communication within the organization.

*Horizontal division of labor* is based on specialization of work. The basic assumption underlying horizontal division of labor is that by making each worker's task specialized, more work can be produced with the same effort through increased efficiency and quality. Specifically, horizontal division of labor can result in the following advantages:

1. Fewer skills required per person.
2. Easier to specify the skill required for selection or training purposes.
3. Repetition or practice of the same job develops proficiency.
4. Efficient use of skills by primarily utilizing each worker's best skills.
5. The ability to have concurrent operations.
6. More conformity in the final product if each piece is always produced by the same person.

The major problem with horizontal division of labor is that it can result in job boredom and even degradation of the worker. An extreme example of horizontal division of labor is the automobile assembly line. It is not hard to imagine the behavioral problems associated with such an assembly line. When talking about horizontal division of labor, it is necessary to introduce two dimensions of the job: scope and depth.

*Job scope* refers to the number of different types of operations performed. In performing a job with narrow scope, the worker would perform few operations and repeat the cycle frequently. The negative effects of jobs lacking in scope vary with the person performing the job but can result in more errors and lower quality.

*Job depth* refers to the freedom of workers to plan and organize their own work, to work at their own pace, and to move around and communicate as desired. A lack of job depth can result in job dissatisfaction and work avoidance which can in turn lead to absenteeism, tardiness, and even sabotage.

A job can be high in job scope and low in job depth or vice versa. For example, a newspaper delivery involves the same few operations each time, but there is considerable freedom in organizing and pacing the work. Thus, the job is low in scope but high in depth. Of course, many jobs are low (or high) in both job scope and job depth.

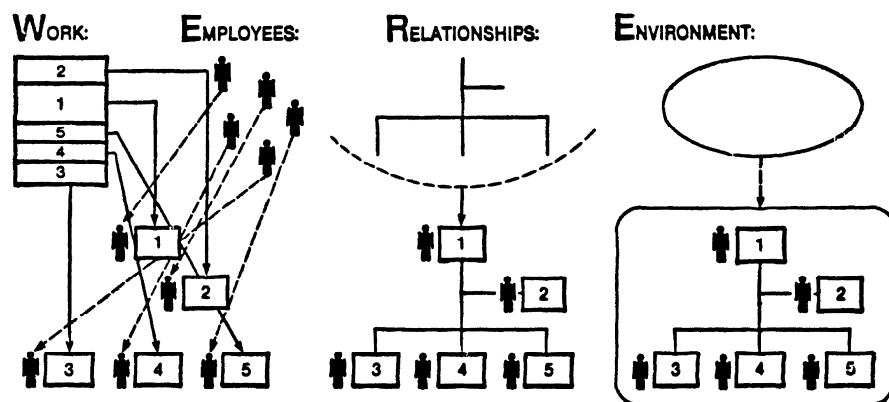
Division of labor is not more efficient or even desirable in all situations. At least two basic requirements must exist for the successful use of division of labor. The first requirement is a relatively large volume of work. Enough volume must be produced to allow for specialization and also to keep each worker busy. A second basic requirement is stability in the volume of work, worker attendance, quality of raw materials, product design, and production technology.

### Components of organizing

There are four tangible components of organizing, and they can be remembered by the word, *WERE*, standing for Work, Employees, Relationships, and Environment. Let us look at these four components more closely.

**1. Work.** The functions to be performed are derived from the stated objectives. They form the foundation for the organization. The functions are segregated into subfunctions. This is done because: (a) work distribution among a group requires that the work be divided and (b) work specialization necessitates small parcels of tasks. From these various functions, clusters of work activities are now formed on the basis of either similarity of work or efficiency; that is, certain functions, if placed in certain clusters, will be performed best. These clusters are termed *organization work units*. Figure 8-1 shows the use of the tangible components in organizing.

**FIGURE 8-1**  
The tangible components of organizing are used to create a formal organization structure



**2. Employees.** Each person is assigned a specific portion of the total work. Preferably, the assignment should give full recognition to the employee's interest, behavior, experience, and skill. This recognition is vital in organizing. The assignment to an individual usually consists of a part of the work of an organization work unit or, in some cases, it includes all the work of that unit. Also, in certain instances, the work of several units is included. From this step results an "organization work-employment unit."

**3. Relationships.** These are of major concern in organizing. The relationship of an employee to the work, the interaction of one employee with another, and of work-employee unit to work-employee unit are crucial issues of organizing. Harmony and unity of effort are possible only if these relationships are good. Most problems in organizing deal, in some measure, with relationship difficulties.

**4. Environment.** This last tangible component of organizing includes the physical means and the general climate within which the employees are to perform the work. The location, equipment, desks, paper forms, light, general morale, and attitudes are representative of the factors making up the environment. The environment has a significant effect on the results obtained from organizing.

### **The organization structure**

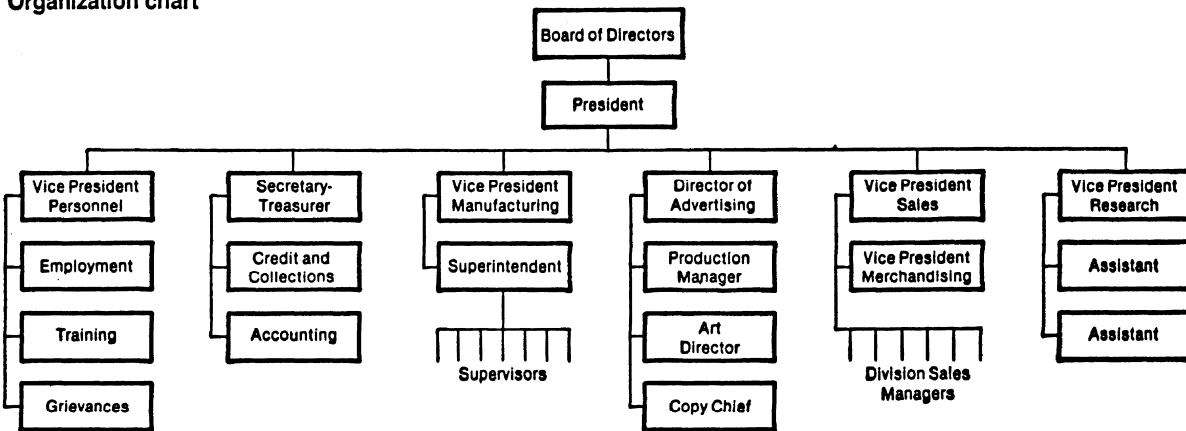
Out of the organizing function emerges an organization structure that shows the flow of interactions within the organization -- who decides what, who tells whom, who responds, and who performs what work.

*An organization chart* is drawn to help visualize the organization structure. Such a chart shows what activities are performed and by whom, the work groupings of activities, and their relationships. Chart lines, joining the organization work-employee units, indicate the formal flow of communication and decision-making authorization at the top of the chart and those with the least at the bottom (see Figure 8-2).

Organization charts are helpful in: (a) identifying organization levels, such as top, intermediate, and bottom; (b) naming the units of each level, such as division, department, and section; and (c) assigning titles.

Organization manuals are becoming more common. Various formats are used, but each supplies complete information on each major job and outlines its requirements, limitations, and relationships to other jobs in the organization.

**FIGURE 8-2**  
**Organization chart**



The main advantages of organization charts and manuals lie in their preparation and maintenance. They force the person preparing them to think about organizing and to make difficult organization decisions. Further, they serve as good sources of information for training purposes, settling disputes, and referring to past organizational arrangements. On the other hand, they are difficult to keep up-to-date, might erroneously be viewed as the organization itself rather than a symbol of it, and provide limited information.

## CHAPTER 9

### DEPARTMENTATION

#### LEARNING OBJECTIVES:

After studying this chapter you will be able to:

1. Discuss what departmentation involves.
2. Differentiate among other types of departmentation.
3. Develop and implement departmentation.
4. List the things to consider in the departmentation process.

Departmentation is the most frequently used method for implementing division of labor. *Departmentation* involves grouping activities into related work units. Approaches to departmentation include: (a) top-down, (b) bottom-up, or (c) work flow through. The first one starts with the entirety of work at the top and works down; the second groups individual tasks into jobs and then combines related jobs into work sections; and the third follows the work flow through the organization. In the work flow through approach each necessary step is assigned, and what each unit and person contributes is highlighted.

In almost every organization there are three basic activities to be performed: producing, selling, and financing. They do not always have these identities, but they are present because they are necessary for the organization to operate and survive. Numerous divisions and arrangements of these basic activities are possible. The specific way in which they are utilized depends mainly on the nature and amount of work, the people available for work, and the extent of specialization followed.

The major means of departmentation are listed below.

**1. Function.** Common or homogenous activities are placed in a common organizational unit. Functional departmentation is a normal way to departmentalize; it is readily understood and is used more often than any other means. Examples include the accounting department, the production department, and the engineering department.

**2. Product.** A sensible degree of specialization is encouraged by departmentation according to product. Further, specialized knowledge, as it applies to a product and its requirements, can be more effectively utilized. Examples include separate departments for different types of merchandise in a department store and separate facilities for commercial loans and personal loans in a bank organization.

**3. Territory or geography.** Departmentation by territory is popular in sales organizations. It enables the salesperson to reduce travel time and expense and makes it possible to become better acquainted with local conditions. There is some duplication of functions, but sales personnel transfers are expedited and similar controls can be used for each of the territorially organized units. Examples include the Northern division, the Southern division, the Western division and the Eastern division.

**4. Customer.** Departmentation according to type of customer places emphasis on giving better service to customers as, for example, in the children's department in a clothing store. Generally speaking, departmentation by customer is most effective when the product is popular, widely used, and sold through many outlets. Other examples include retail versus wholesale divisions of an organization.

**5. Task team.** A specific project or a block of work is assigned to a small group that operates as a unit which is self-contained and includes all the required skills for performing the work. The task team usually operates until the successful fulfillment of the project, after which it is disbanded with persons and facilities reassigned. The arrangement is contrary to the common approach of work division and of specialized and somewhat separated organization units. Organization by task team is sometimes termed project organization.

### **Other types of departmentation**

In addition to the above most-popular types of departmentation, several other types are possible. Departmentation by simple numbers is practiced when the most important ingredient to success is the number of workers. Organizing for a local United Way drive might be an example. Departmentation by process or equipment is another possibility. Not totally different from functional departmentation, activities can be grouped according to the equipment or process used. A final type of departmentation is by time or shift. Organizations that work around the clock may departmentalize according to shift.

### **Implementing departmentation**

The organizer is free to use any means of departmentation. Typically, several are used in the same organization. It must be remembered, however, that people are the important ingredient in organizing. We cannot successfully departmentalize solely on the basis of the work itself. What social values the people have must be taken into account. Likewise, their traditions, beliefs, and individual differences should be considered in selecting the form of departmentation.

During the recent past, the emphasis in organizing has been directed toward: (a) improving the efforts of the group as a unit and (b) widening individual job requirements. With reference to the former, much work is accomplished by a group, and efforts to raise the group's productivity and increase the satisfactions of the group's membership are really worthwhile and are the concern of organizing. If we were to concentrate only on the individual efforts, we would

be ignoring a most lucrative source for organization improvement, namely, the group's accomplishments. The impact of the group is discussed at length in Chapter 12.

With reference to individual job requirements, there are several organizing-related factors that affect the satisfaction that an individual derives from the job.

**1. Scope of decision making.** Freedom to decide issues pertaining to one's work affords self-assertion, which is personally satisfying to most people. This freedom aids in fulfilling self-expression needs and permits people to gain the feeling that they are running their own job, preparing themselves for future growth, and enjoying the satisfaction of achievement.

**2. Reciprocal relationships.** For maximum satisfaction, the organizing should strive for reciprocal, not one-way, relationships. Employees enjoy a "give-and-take" discussion about issues affecting them as well as factors affecting their jobs.

**3. Size of work-employee unit.** The satisfaction of belonging, of personal achievement, and of doing something important are enhanced when the work group is kept within a reasonable size of not more than 15-20 persons. Beyond this number, the satisfying of personal needs of employees through organizing becomes more difficult. Likewise, having an employee work alone may create difficulties in that the person is isolated and cannot interact with the co-workers.

**4. Degree of work specialization.** A too-specialized job can rob the employee of opportunity for growth, of seeing the relationship of the task to the overall work, and of achieving a sense of accomplishment. Work specialization can be overextended to the point where the employee's interest in the work is dulled, a sense of accomplishment is diminished, and fatigue comes on more quickly. These undesirable effects can be avoided by expanding the variety of work and eliminating concentration on a single task. This is referred to as job enlargement.

**5. Reporting to high-level executives.** Almost everyone likes to report to a person at the top level. This denotes status, adds to the reporter's prestige, and reflects the importance of the work being done. Organizing can provide this arrangement, when deemed desirable.

### **Things to keep in mind**

Actually, there is no predetermined pattern that a manager can follow in solving each organizing problem. The manager must decide what requirements are paramount and try to satisfy them. The objective is to seek the best composite -- all important factors considered.

Factors to keep in mind are that effective departmentation:

1. Aids coordination. Assigning work to the unit that can best perform it simplifies coordination. Separate and dissimilar units that require close coordination may be placed

advantageously in the same department. Further, where there is clearly a dominant objective related to several diverse units, it is usually effective to place these units under one segment of the organization structure.

2. Expedites control. It assists controlling to have a highly competent management member within each organization unit. Hence, a unit may be so placed in the total organization in order to achieve this goal, even though it may seem an illogical location. Where the work of one unit is independently checked by another, it is clearly desirable to place the units in separate organization locations; for example, auditing and cash disbursing should be separated. Further, identical controls can be applied and the results compared. Inefficiency can then be quickly spotted by comparison of achievements.

3. Provides the benefits of specialization. Concentration of effort helps a person to become an expert in certain types of work, but as indicated previously, the specialization should not be extended too far. Capitalizing on a person's specialty is good organizing, especially when a particular and scarce skill and knowledge are required.

4. Cuts cost. Costs must always be considered in determining the organization structure. The number of units utilized has a direct bearing on cost. Too frequently, new units are added and additional people hired without adequate study of costs. Such additions should not be made without some idea of the value of the contribution of the new unit compared to its added cost. Opportunities exist in organizing to reduce labor costs by designating different grades of jobs paying different rates where the work has different skill requirements.

5. Places emphasis on human relations. To reiterate, we must not forget that organizing, to be effective, must take human relations into account. A strictly logical, materialistic approach that does not do so cannot be successful for any length of time. Allowances must be made for individual differences. Managers' ideas on how they want to organize and how they want to run their units cannot be ignored. The real pay-off of organizing is in the results it brings, and these in turn depend more on how well people work together than on any other consideration.



## CHAPTER 10

### AUTHORITY

#### LEARNING OBJECTIVES:

After studying this chapter you will be able to:

1. Define the line of authority.
2. Determine the roles of responsibility and delegation.
3. Explain why managers are reluctant to delegate.
4. Differentiate between centralized versus decentralized authority.
5. Distinguish between line versus staff authority.

#### What is authority?

To complete an organization, the work-employee units are joined together by means of authority that establishes relationships among the units. It is important to establish such relationships, because only when their relationships to one another are clearly understood, can units serve effectively as components of a whole organization. Authority is needed to direct each unit's actions toward total organization goals.

*Authority* is the right to command and expend resources. Many people confuse power with authority. *Power* is the ability to command or apply force and is not necessarily accompanied by authority. Power is derived from the control of resources. A man with a pistol may have the power to shoot another, but he does not have the right to do so. Similarly, managers may have the power to make frivolous expenditures, but they do not have the right to do so.

Some view authority as coming from ownership, legal decree, or status in the organization. That is, an owner of property has the privilege of deciding how the property is used. The owner can exercise this privilege or can designate others to do it. The law gives authority to those charged with enforcing statutes. And, in some organizations, an officeholder, by status in the organization or by position, receives the authority required to perform the duties of that job.

In the opinion of others, authority comes to its holder through acceptance by subordinates of the manager's decision making and decision enforcement. In this view, a manager has no authority until it is conferred by the subordinates. This is the subordinate-acceptance approach to authority. It emphasizes leadership; the importance of a manager winning support, not ordering it, and the recognition by the employee that someone in the group must make decisions. In it, the manager's motivation derives from the opportunity to contribute to a group's efforts, to gain acceptance, and to receive awards.

Other forms of authority are recognized. Authority of the situation arises from an emergency or unusual event and is voluntarily conferred upon the person assuming authority to meet the particular circumstances. It remains until the emergency terminates or the person regularly charged with authority takes over. "Technical or computer authority" is authority given to a person possessing and interpreting valuable information and knowledge. "Accomplishment authority" is that gained through past accomplishment, experience, and competency. The holder of such authority decides issues, and these decisions are followed by the group, primarily because it believes the manager knows what he or she is doing, commands respect, and can generate enthusiastic cooperation.

## **Responsibility and delegation**

Before continuing with authority, let us note another important concept that is a twin of authority; that is, responsibility. This can be defined as follows: *Responsibility* is the obligation of an individual to perform assigned activities to the best of his or her ability.

Can authority be delegated? Can responsibility be delegated? There is little debate concerning the delegation of authority -- authority can and should be delegated. For example, a manager might very well choose to delegate the authority to subordinates to make expenditures, without approval, up to a stipulated amount. However, considerable debate often arises with regard to the delegation of responsibility. A close analysis of this debate generally reveals that the debate is more the result of semantics rather than a misunderstanding of the concepts involved. Those contending that responsibility cannot be delegated support their answer by stating that managers can never shed the responsibilities of their jobs by passing them on to subordinates. Those contending that responsibility can be delegated justify their position by pointing out that managers can certainly make subordinates responsible to them for certain actions. Both parties are correct. Managers can delegate responsibilities to subordinates in the sense of making subordinates responsible to them. However, this delegation to subordinates does not make managers any less responsible to their superior. Thus delegation of responsibility does not mean abdication of responsibility by the delegating manager.

Responsibility is not like an object which can be passed from individual to individual. Suppose the claims manager for a life insurance company decided to delegate to the claims investigators the responsibility for insuring that all claims are investigated within a 60-day limit as stated by company policy. The claims manager can certainly make the investigators accountable (responsible) to him or her regarding this matter. At the same time the claims manager is no less accountable to his or her boss.

Effective management requires that, for every management member, authority should be commensurate with responsibility. This is referred to as the *parity principle*. Management must delegate sufficient authority to subordinates who can do their jobs. At the same time subordinates can be expected to accept responsibility only for those areas within their authority.

## **Why managers are reluctant to delegate**

Delegation is not a natural tendency with most managers. There are several reasons why many managers are reluctant to delegate authority. Unfortunately many managers subscribe to the old saying “if you want anything done right around here, do it yourself!” Not only does such an attitude reveal that the manager does not have a grasp of the management process, it also demonstrates that the manager has done a poor job of selecting and developing subordinates. Managers who attempt to “do it all themselves” find that their time is continually consumed by rather unimportant tasks and that they do not have time to do important tasks. Newly appointed managers often have a tendency to adopt this attitude for fear of failing if they don’t do it themselves.

A second reason why managers are reluctant to delegate is the fear that a subordinate will “look so good that the subordinate might replace the manager.” To good managers, such fears are totally unfounded. A manager’s performance is, for the most part, a reflection of the performance of his or her subordinates. If a manager’s subordinates “look good,” the manager “looks good”; if the subordinates “look bad,” the manager “looks bad.”

A third reason that causes managers to shy away from delegating is the human attraction for power. Most humans like the feel of power which often accompanies authority. To many managers there is a certain degree of satisfaction in having the power and authority to grant or not grant certain requests.

In spite of all the reasons for not delegating, there are some very strong reasons why a manager should delegate. First, the manager’s time is freed to pursue more important tasks. Second, the subordinates gain feelings of belonging and being needed. These feelings often lead to a genuine commitment on the part of the subordinates. An additional reason to delegate is that it is one of the best methods for developing subordinates.

To combat tendencies not to delegate authority, a manager must:

1. Recognize the need for delegation. A manager must have confidence that delegation of authority will be rewarding, will assist in building an effective group effort, will help multiply his or her efforts, will benefit subordinates, and will enable subordinates to contribute their full measure.
2. Devise a means for knowing what is going on. Delegators want to be kept informed, simply in order to be knowledgeable of what is taking place and to be in a position to institute corrective steps, if required. To supply information, a built-in audit, prescribed written reports, or periodic conferences can be utilized.

3. Decide what type of decision making to delegate. A list can be prepared so that identification of those decisions to be delegated is predetermined. This ties in delegation with planning, and makes it a part of the managerial practice followed.

4. Select carefully the delegatee. The assignment should be measured to the person. The delegatee should be one whom you believe can succeed. Give opportunity to those persons not utilizing their full potential.

5. Help the delegatee. Assist, but do not tell the delegatee exactly what to decide and what to do. Typically, if the delegatee asks for help, give it; but to give the answers negates the benefits to delegation. Rather, the delegator remains available, gives encouragement, and asks pertinent questions designed to identify and explore possible solutions to the problem.

### **Centralized versus decentralized authority**

Centralized authority and decentralized authority are further important considerations of authority. The former means concentration of authority; the latter, dispersion of authority. They are related to the delegation of authority inasmuch as the real issue is how much authority is delegated to subordinates. Diagrams help to comprehend the meaning of centralization and decentralization. Figure 10-1 illustrates centralization in that the decisions about advertising, sales personnel, promotion and market research are concentrated, with the managers of the respective units reporting to the vice president of sales. Their decisions apply to the managers in charge of the districts. A decentralized arrangement is shown in figure 10-2. Each sales district now has its own sales personnel and promotion units. Managers heading these units decide issues in these activities for their respective sales district and report to their respective district managers. However, advertising and market research are still centralized.

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FIGURE 10-1

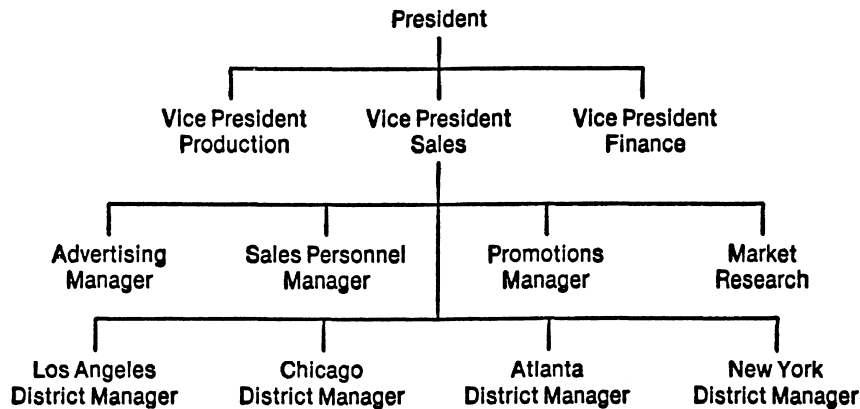
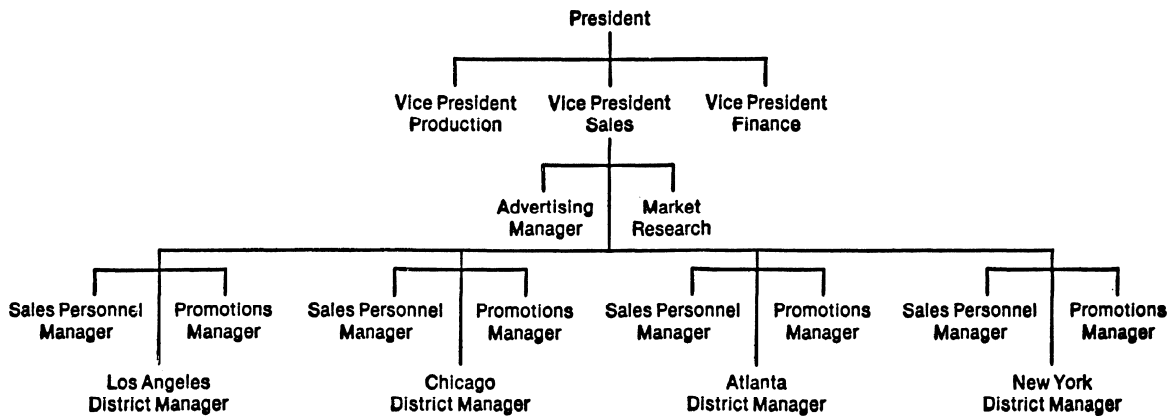


FIGURE 10-2



Advocates of centralized authority cite its advantages as follows: (a) duplication of functions is avoided, (b) uniform policies and practices are promoted, (c) prestige and full utilization of managers are won, and (d) specialists' contributions are maximized, primarily because of the scope and volume of work processed. In contrast, advocates of decentralized authority are quick to relate its advantages as follows: (a) effective human relations are encouraged, (b) greater opportunity to develop and to manage are provided, (c) teamwork and self-sustaining organization segments are promoted, (d) risks of losses of personnel and facilities are spread out, and (e) decisions can be made on a timely basis

*Span of authority*, or span of control, refers to the number of subordinates that report to a manager. If the practice is to use a large number, i.e., a wide span of authority, the organization structure will tend to have relatively few organization levels. This is referred to as a *flat organization structure*. In contrast, utilization of a short span makes for relatively many organization levels and a *tall organization structure*. How many persons should be subordinated

to an executive varies, with consideration for: (a) the type of work, (b) the location in the organization structure, (c) the ability of the manager, and (d) the amount and type of communication required among the members. Generally speaking, spans of authority tend to be short at top organization levels, especially if the work has many nonrecurring problems or mainly requires mental effort. Spans tend to be wide at lower organization levels, especially if the operations are fairly well-defined and the decisions deal with repetitive situations.

### Line versus staff authority

Authority is commonly classified as *line* or *staff* authority. Line authority is limited mainly by the position in the organization of the manager and unit. Staff authority is limited by the type of decision-making authority. When a superior delegates to a subordinate, who in turn delegates authority to another subordinate, and so on, a line of authority from the top to the bottom of the organization structure is formed. It is from this source that the term line authority is responsible for the work of his or her unit and its direct contribution to the objectives of the organization. In contrast, staff authority is in a supporting role and contributes indirectly to the objectives of the organization.

To assist in clarifying the meaning of line authority and staff authority, a comparison is shown in Figure 10-3.

To reiterate, the main concern in organizing is to get employees to work together effectively. Some managers decide certain activities, whereas other managers decide other activities. Yet all the decisions must be compatible, utilize the best abilities of each manager, and, to some degree and manner, assist in achieving the objectives. Who decides what and maintains the proper coordination among all the decisions gives rise to qualifying the authority used -- specifically, to the utilization of line authority and staff authority. Genuine teamwork is desired. A mutual goal is known. Team members contribute what they can do best, so that the highest joint efforts can be applied.

**FIGURE 10-3**  
**Comparisons of line and staff authority**

<i>Line authority</i>	<i>Staff authority</i>
1. Pertains to superior-subordinate relationships.	1. Characteristically, is a manager-to-manager relationship.
2. Is directly related to objectives of organization.	2. Is indirectly related to objectives of organization.
3. Deals mainly with the exercise of authority along the channel of line authority.	3. Deals mainly with the exercise of authority to a channel of line authority.
4. Identifies units that initiate and carry through to conclusion the basic activities.	4. Includes all units that are not line.
5. Manager is a doer, or a putting-into-action type of manager.	5. Manager has a supporting role and aids the doer.
6. Designates a line manager.	6. Designates a staff manager.

## **CHAPTER 11**

### **ORGANIZATION STRUCTURES**

#### **LEARNING OBJECTIVES:**

After studying this chapter you will be able to:

1. Identify line organizations.
2. Differentiate between line and staff organization.
3. Distinguish between the concepts of line and conflict.
4. Illustrate the concept of a matrix organization.
5. Detail the role committees.

Many people believe that a good manager or a good employee should be able to perform satisfactorily regardless of the organization structure and environment. The belief is that if managers or employees are good enough then they can overcome whatever obstacles the organization structure might present. Others believe that given the right organization structure, anyone should be able to perform in an acceptable fashion. The truth lies somewhere in between the above propositions. An appropriate organization structure certainly helps in achieving good performance in organizations. Clear and appropriate lines of authority coupled with proper departmentation provide the basis for the organization structure. The organization structure forms the framework within which the organization operates. While thousands of different organization structures exist, all are variations or combinations of three basic types: the line organization, the line and staff organization, and the matrix organization.

#### **Line organization**

The line organization is the simplest organization structure. It is characterized by direct vertical links between the different levels of the organization. All members of the organization receive instructions through the chain of command. The most important aspect of the line organization is that the work of all organizational units is directly involved in producing and marketing the organization's goods or services.

One advantage of the line organization is the clear authority structure. Such a structure promotes rapid decision making and prevents the practice of passing the buck or blaming someone else. A disadvantage of the line organization is that it may overextend managers by forcing them to perform a broad range of duties. The line organization structure may also cause the organization to become overly dependent on one or two key individuals who are capable of performing many duties. Because of its simplicity, the line organization exists most frequently in small organizations.

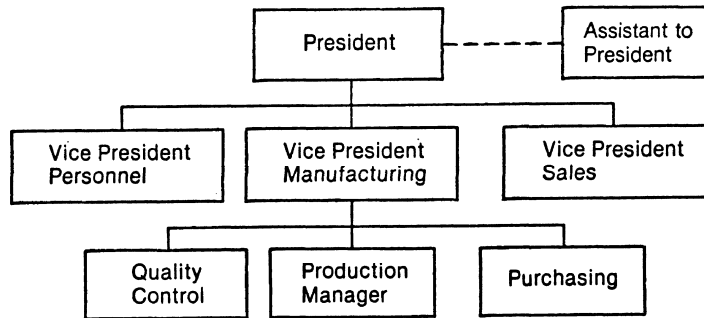
## **Line and staff organization**

The addition of staff specialists to a line organization creates a line and staff organization. As a line organization grows in size, staff assistance often becomes necessary. As discussed in Chapter 10, staff functions are advisory and supportive in nature and are designed to contribute to the efficiency and maintenance of the organization; whereas line functions are directly involved in producing and marketing the organization's goods or services. Line functions generally relate directly to the attainment of major organizational objectives whereas staff functions facilitate the accomplishment of major objectives in an indirect manner. Staff people are generally specialists in a particular field and their authority is normally limited to that of making recommendations to the line people. Typical staff functions include research and development, personnel management, employee training, and various "assistant to's." Figure 11-1 shows a simplified line and staff organization structure. The line and staff organization is by far the most-used type of structure.

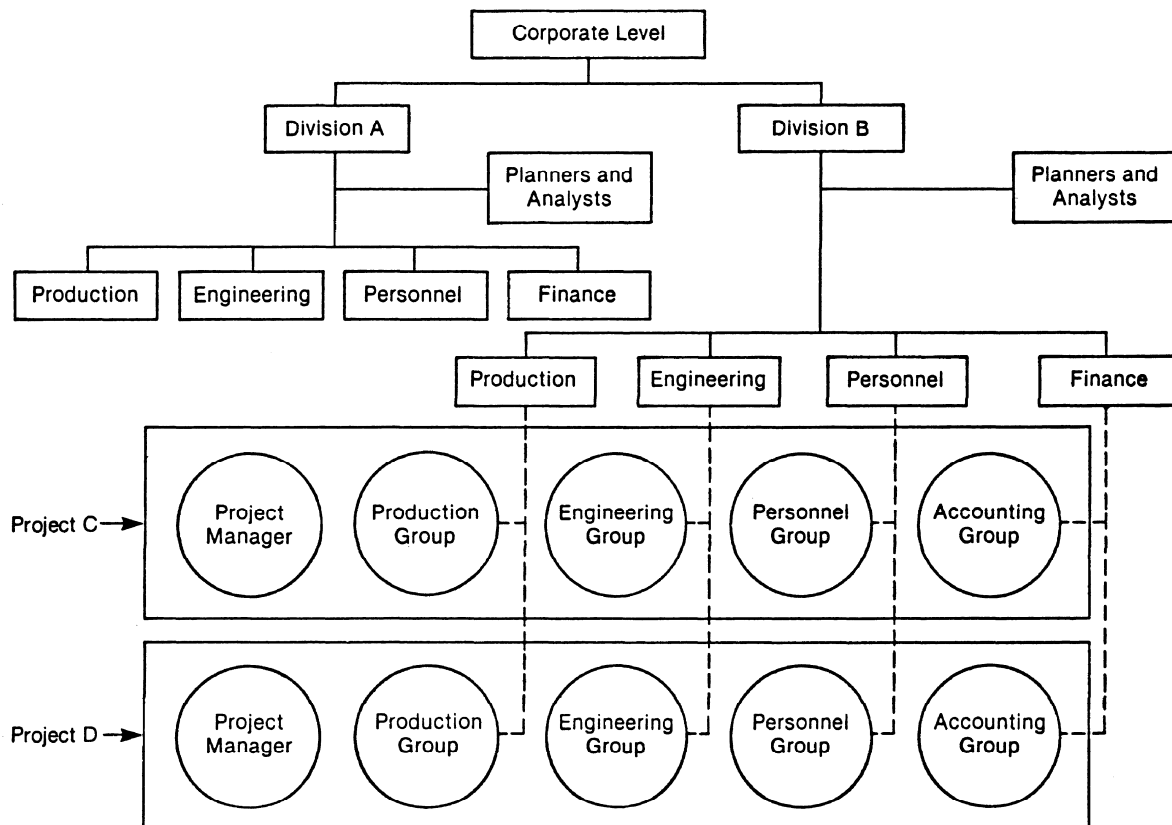
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**FIGURE 11-1**  
A simplified line-staff organization structure



**FIGURE 11-2**  
Illustrative matrix organization



## **Line and conflict**

The line and staff organization allows for much more specialization and flexibility than the line organization; however it sometimes creates conflict.

Some staff specialists resent the fact that they may be acting only as advisors to line personnel and have no real authority over the line. At the same time, line managers, knowing that they have ultimate responsibility for the results produced, are often reluctant to listen to staff advice. Many staff specialists feel that they should not be placed in a position of having to sell their ideas to the line. They feel that the line managers should openly listen to their ideas. If the staff specialist persists in such situations, the line manager often builds up additional resentment of the staff as “always trying to interfere and run my department.” If the staff specialist does not persist, he or she often becomes discouraged because “no one ever listens.”

Another factor that contributes to line and staff conflict is that line and staff personnel may be different in personal characteristics and behavior. For example, line managers are often older individuals who have worked their way up through the ranks and who do not have a college education. On the other hand, staff specialists usually are young and highly educated. Because they often lack line experience, staff personnel are frequently accused of not knowing anything about what the line does and therefore of living in “ivory towers.”

The reduction and subsequent elimination of line-staff conflict that is destructive to the organization depends on the building of a mutual trust relationship between the line managers and the staff. The first step in building this relationship is the development of a clear understanding of the lines of authority and the responsibilities of each group. If this is successfully accomplished, each group should develop an appreciation of the fact that the only way they can both maximize their performance is through cooperation.

## **The matrix organization**

The matrix (also called project organization) form of organization has recently evolved a way of forming project teams within the traditional line-staff organization. A project is “a combination of human and nonhuman resources pulled together in a temporary organization to achieve a specified purpose.” The marketing of a new product and the construction of a new building are examples of projects. Because projects have a temporary life, a method of managing and organizing them was sought so that the existing organization structure would not be totally disrupted and would still maintain a degree of efficiency.

Under the matrix structure, individuals working on a project are officially assigned to the project and to their original or base department. A manager is given the authority and responsibility for meeting the project objectives in terms of cost, quality, quantity, and time of completion. The project manager is then assigned the necessary personnel from the functional departments of the parent organization. Thus, a horizontal line organization develops for the project and leaves the parent vertical line functions in a support relationship to the project

organization. Under such a system the functional personnel are assigned and evaluated by the project manager while they work on the project. Upon completion of the project or completion of their contribution to the project, the functional personnel return to their functional departments. Figure 11-2 illustrates a matrix organization.

A major advantage of matrix organization is that the combination of people and resources which are used on the project can readily be changed to correspond to changing project needs. Other advantages include the emphasis placed on the project by establishing a project team and the relative ease with which project members can be absorbed back into the functional organization once the project has been completed. One serious potential disadvantage is that matrix organization can result in a conflict as to who has authority. A role conflict can develop if the authority of the project manager is not clearly delineated from that of the functional managers. In such a case the personnel assigned to the project might receive conflicting assignments from their project manager and their functional manager. A second problem occurs when the personnel assigned to a project are still evaluated by their functional manager who has little opportunity to observe their work on the project.

## **Committees**

A committee is a group of people formally appointed and organized to consider or decide certain matters. Actually, committees are a form of matrix organization in that they are superimposed on the existing line or line and staff structure. Committees can be permanent (standing) or temporary and are usually in charge of or supplementary to the line and staff functions.

Temporary or ad hoc committees are generally appointed to deal with a specific problem or problems. In the normal course of action, a temporary committee studies the problem, makes its recommendations, and then is dissolved. The permanent or standing committee usually acts more in a purely advisory capacity to certain organizational units or managers. When committees have the authority to order, rather than just recommend, they are called plural executive committees. Plural executive committee privileges are usually reserved for very high-level committees.

Committees are viewed by some managers as a very effective coordinating medium, whereas others consider committees a great source of frustration and an excellent way to waste time. For best results from use of a committee, the following points should be observed:

1. Write down the purpose, scope, decision-making power (if any), and relationships with organization units for the committee.
2. Appoint an effective chairperson who prepares the agenda, supplies data to members prior to the meeting, and keeps the discussion focused on the subject at hand.

3. Select subject matter discreetly. Basic issues, evaluations, and review of past activities are well-handled by a committee.
4. Stress the prestige, publicity, and influence that being on a committee provides to the individual members.
5. Keep the membership within practical limits, usually three to seven members.
6. Arrange for adequate follow-up to the committee's work and periodically review its contributions.

The board of directors, which is really a type of committee, is legally created and has the following essential duties: (a) to exercise "an awareness of trust," i.e., to serve in a position of trusteeship over the organization's assets; (b) to question officers, in order to justify their past or proposed actions; and (c) to deliberate and formulate decisions on major and basic issues of the organization. The board is a group, it acts as a group, and renders decisions as a group.

## CHAPTER 12

### ORGANIZATION: INFORMAL WORK GROUPS

#### LEARNING OBJECTIVES:

After studying this chapter you will be able to:

1. Explain formal versus informal work groups.
2. State why informal work groups exist.
3. List and define factors common to all informal work groups.
4. Explain the need for conformity in informal work groups.
5. Describe the role of management's relationship to informal work groups.

#### Formal versus informal work groups

For purposes of this course, the term *work groups* will be used to describe any group that exists in an organization. Work groups can then be further broken down into formal and informal work groups. *Formal work groups* are defined by officially prescribed relationships between employees. Formal work groups are usually shown on the organization chart. Two popular types of formal work groups are command and task groups. The work groups are command and task groups. The vice presidents reporting to the president make up a command group. The department heads reporting to a vice president comprise another command group. A task group is formed by employees that collaborate in order to accomplish a work task assigned by the organization. A temporary committee is a good example of a task group.

*Informal work groups* are groups that form in organizations as the result of personal contacts and interactions and the associated groupings of people working within the formal work groups of the organization. Informal work groups are usually not formally recognized by the organization.

#### Why informal work groups exist

Work is a social experience and provides an opportunity for employees to fulfill many needs. When people are brought together in an office or plant, they interact and work together in their formal job duties. Friendships naturally emerge out of these continuous contacts and from areas of common interest. Mutual interests, friendships, and the need to fulfill social needs are three reasons that help to explain both the formation of informal work groups and the desire of employees to become members of such groups. Informal work groups provide a sense of security to the individual members because group members usually exhibit a strong sense of loyalty and share common values. Further, membership in informal work groups facilitates social interaction and affiliation and fosters a feeling of pride or esteem by enabling the individual to be part of the "in-group."

The physical work conditions can also encourage the formation of informal work groups. People in close proximity to each other are almost forced to interact. The arrangement of furniture, desks, equipment, and offices can either encourage or discourage the formation of informal work groups. Generally, a physical work setting which facilitates social interaction increases the likelihood not only that an informal work group will exist but also that new employees will join.

Technology, which is closely aligned with the physical work conditions, also heavily influences informal work group formation. Technology in this broad sense refers to how the overall work flows throughout the organization. The technology of an organization positions people in the work system, prescribes their activities, and determines their interactions.

Like technology, management can influence the formation of informal work groups. For instance, if management decides to organize on a functional basis -- accounting department, marketing department, and so forth -- this facilitates the formation of informal work groups comprised of people performing similar functions. If, on the other hand, management organizes by product, customer, or geographical area, then people performing different functions are likely to form into groups.

In addition, the style of leadership employed by a manager can influence the formation of informal work groups. For instance, an autocratic manager and a participative manager would probably evoke entirely different informal work group behavior.

In summary, there are many reasons for the formation of informal work groups within organizations. The reasons discussed above are by no means mutually exclusive or all-inclusive. The important point to remember is that overlapping the formal work groups in an organization are informal work groups which can have a significant impact on both individual and organizational performance.

### **Factors common to all informal work groups**

Once informal groups are formed they evolve in such a manner that they take on a life of their own, separate and distinct from the work processes in which they originated. Informal group development is viewed as a self-generating process. Individuals who are formally required to interact with each other soon build favorable sentiments toward certain people. These sentiments serve to facilitate interactions and activities above and beyond those required by the job description, such as eating lunch together, discussing problems, etc. Simultaneously, these individuals become closer and the group becomes an identifiable entity rather than just a collection of people. Over time, the informal group develops a set way of doing things and possesses several factors which seem to be common to all informal work groups.

A *group norm* is an agreement among the members of the group concerning how the members should behave. The various forms of informal group norms are limitless. Examples of

informal group norms that relate to the work place are setting certain performance levels that may be either above, below, or the same as those set by management. Playing a joke or trick on all new employees is another example. Unfortunately, little is known about what factors determine whether an informal group will establish a pro- or antiorganization norm. However, a significant factor that determines whether group norms are closely adhered to by group members is the group's cohesiveness.

*Cohesiveness* basically refers to the degree of attraction that each member has for the group, or the stick-togetherness of the group. Cohesiveness is important for the group because the greater the cohesiveness of the group, the more likely it will be that members will pursue the group norms and not individual norms. That is, the greater the cohesiveness, the greater the conformity of individual members to group norms.

One variable affecting the cohesiveness of the group is its size. Individuals in the group must interact in order for the group to exist. Thus, group cohesiveness decreases as the size of the group increases. It is impossible to specify an upper limit on the size of informal work groups. However, the interaction requirement generally limits the size of the group to a maximum of 15 to 20 members. Generally if the informal work group becomes larger than 20, subgroups begin to form.

The success and status of the group play an important part in group cohesiveness. The more successful a group is in achieving its goals, the more cohesive the group becomes. The relationship is circular in that success breeds cohesiveness and cohesiveness in turn breeds more success. Numerous factors contribute to the status of work groups. Some of these include: the skill required in performing the job (skilled versus semiskilled jobs); opportunities for promotion out of the group (some groups develop reputations such as "the way to the top is through marketing"); the degree of supervision required (groups requiring less supervision have a higher status); and the type of work that is performed by the group (the more dangerous or more financially rewarding the work, the greater the status). Several factors can also contribute to the status of the group. However, the important point is that groups that are successful in achieving their goals and that have higher status generally exhibit more cohesiveness.

Outside pressures, stability of membership, ability to communicate, and degree of physical isolation are also variables that can influence group cohesiveness. For instance, if demands or requests made by management are perceived as threats by informal work groups, group cohesiveness may increase to offset the perceived threat. Higher cohesion results from stable membership in the group because the group members have a longer time to know each other, to learn the norms of the group, and to learn how to behave according to group norms. Physical layouts designed to inhibit conversation can reduce group cohesiveness.

### **Conformity and informal work groups**

*Conformity* refers to the degree to which the members of a group accept and abide by the norms of the group. Conformity in one situation might be viewed as deviant behavior in another

situation; therefore, conformity is situationally determined. Probably the most important variable in a situation is the individual's relationship with other people and their relationships with each other. Thus, the group defines conformity for any given situation.

Informal work groups seek to control the behavior of their members for many reasons. One reason the group desires uniform, consistent behavior from each individual member is so that members can predict with reasonable certainty how the individual members will behave. This certainty is necessary in order to achieve some degree of coordination in working toward the group's goals. On the other hand, groups are organizations in and of themselves, and as a result, conformity is often required in order to maintain the group. Individualistic behavior among group members can threaten the survival of the group by causing internal dissension. Individual members tend to conform to group norms (1) when the norm is congruent with the personal attitudes, beliefs, and behavioral predispositions of the members and (2) when the norm is inconsistent with the personal attitudes, beliefs, and behavioral predispositions, but strong pressures to comply are sent by the group and the rewards of complying are valued or the sanctions imposed for noncompliance are devalued.

### **Management and informal work groups**

As this chapter has discussed, much individual behavior is influenced by the informal work groups to which individuals belong. Unfortunately, many managers view informal work groups as being only negative in their orientation toward organization objectives. However, as summarized in Figure 12-1, informal work groups can be beneficial to management.

In order to realize the potential benefits outlined in Figure 12-1, the manager must be aware of the impact of informal work groups on individuals. Figure 12-2 indicates several key factors the manager should keep in mind in dealing with informal work groups.

**FIGURE 12-1**  
**Potential benefits from informal work groups**

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1. Informal work groups blend with the formal organization to make a workable system for getting work done.
  2. Informal work groups lighten the work load for the formal manager and fill in some of the gaps in the manager's abilities.
  3. Informal work groups provide satisfaction and stability to the organization.
  4. Informal work groups provide a useful channel of communication in the organization.
  5. The presence of informal work groups encourages managers to plan and act more carefully than they would otherwise.
-



**FIGURE 12-2**  
**Key factors in dealing with Informal work groups**

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1. Participation in groups is a basic source of social need satisfaction for employees.
  2. Informal groups try to protect their members and provide security. They will try to protect members from perceived threats from management.
  3. Groups develop communication systems to provide information that members want. If management does not provide the information employees want, the informal group will try to obtain it.
  4. Both formal and informal groups obtain status and prestige within an organization. Groups may use their status and prestige as a power base to influence others in the organization.
  5. Groups develop and enforce norms for the behavior of members. The group norms may be supportive of management or may work against management objectives.
  6. The more cohesive a group is, the more control it has over the behavior of its members. The highly cohesive group can produce high achievement organizational goals. But it can work just as effectively against organizational objectives when the group opposes management.
  7. Both formal and informal groups within an organization establish roles that affect the activities and responsibilities of members. Accepting role responsibilities in an informal group may require that an individual violate the role expectations of management.
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## CHAPTER 13

### ORGANIZATION DYNAMICS

#### LEARNING OBJECTIVES:

After studying this chapter you will be able to:

1. Define organization dynamics.
2. Explain organizational growth.
3. State when to implement change.
4. Predict human reactions to change.

#### Defining organization dynamics

Organizing is never finished. Viewing an organization as a network of decision-making communicating centers, from which effective group effort is to be obtained from the efforts of individuals, it can readily be seen that organizing is dynamic. Changes are certain to take place because we are dealing with people, their relationships, and physical resources, none of which remain static. An organization must be adapted to the changing needs of those identities of which it is made up as well as to its changing environment.

The four major reasons for organization dynamics are as follows:

**1. The handiwork that organizing creates.** In an organization, there are many mutually dependent variables, and each is affected by the collective effect that all the variables help to maintain. The structure is built on, and emphasizes, interdependence among its various units. And the exact operation of the unit is conditioned by the human element of those performing the work. Thus the various ingredients that constitute an organization, and the purpose for which it is created and maintained, contribute to its dynamic characteristic. It is never static and should never be thought of as a static entity.

**2. The inherent effects of personnel.** Human beings change -- their attitudes, capacities, and interest do not remain the same. Part of this is normal, and part is promoted and forced by development programs. Further, employees quit, are transferred, promoted, demoted, get married, grow old, retire, and die. Also in some cases, the individual is moved up too fast due to an emergency, or too slowly because of few openings. And there are numerous examples where the arrival of a new top manager brings about reorganization of the unit and many changes in personnel.

**3. Economic considerations, growth, and stresses.** Without doubt, many organization changes are initiated for the purpose of bringing about improved organization effectiveness. Duplication of work, employees on jobs not requiring their special training and experience, and

excessive cost are but a few of the common reasons for organization change. Furthermore, there are economic cycles, revealing fluctuations in demand for the products or services of most organizations. Adjusting to these variations causes organization change; for example, during boom periods, the tendency is to add assistants, staff people, and special units, and these additions are often made without adequate planning. Likewise, when the boom subsides, the paring of the organization may be done in a quite unorthodox manner.

Additions of new products and new markets are prime reasons for change. These bring about new objectives that result in the obsolescence of certain existing functions. Mergers and acquisitions bring about the same effect. When there is a wide variety of products, the problem of coordinating and of decision making can become somewhat complex. New departmentation, additional people, and new authority may be added. In fact, growth of organization is, of itself, a cause for organization change. Functions multiply, authority widens and increases, and relationships become more complex. The initiation of manufacturing and sale operations in foreign countries creates new problems arising out of trade restrictions, the customs of the country, currency control, taxes, market characteristics, and so on. The structure of the organization must be altered to cope with these problems.

**4. Technological changes.** New developments in technology are an important contributor to organization dynamics. New materials and new processes call for new activities and organizational units. For example, automation may completely eliminate former functional manufacturing units and cause them to be replaced with new ones. Material handling may become highly important, production scheduling much less so. When a computer takes over paperwork formerly done manually, the makeup and pattern of relationships of the organization must be altered, and different skills will be needed.

## **Organization growth**

What might be termed the normal growth pattern of organizations consists of three steps, in the following sequence: (a) vertical growth, (b) horizontal growth, and (c) functional to divisional departmentation. When the work becomes too much for one person to handle, the usual decision is to get a helper who reports directly to the person being helped. Thus, an organization level is added and vertical growth has been experienced. As the work expands further, more helpers are obtained, so that eventually departments are formed. Figure 13-1 clarifies this concept. Initially, the owner and president secured one helper each in production, sales, and finance. With time, each of these helpers secured helpers, and finally departments were formed, as for example, Production Departments 1,2, and 3. The same development occurred in sales and in finance. The vertical growth is shown by solid lines.

Complexities in performing the work tend to increase with growth in the amount of work. That is, department 1, under production, will be required to maintain quality and to buy materials it needs. The same is true of departments 2 and 3. Soon it will be reasoned that it would be beneficial to have a specialist in that particular work perform it for each department. Consequently, such units are added to the organization. These are indicated by dashed lines in

Figure 13-1. Under production, a unit of inspection and one of purchasing are shown. They represent horizontal growth of an organization.

With still further work expansion, additional vertical and horizontal growth is experienced, until eventually the organization structure becomes cumbersome and fails to meet the needs of an enlarged, diversified company. Adjustment to the company's growth is now accomplished by going from functional to divisional departmentation. The many functional units are regrouped into several large, self-contained organization segments with a common or central group or staff to supply needed specialized assistance. In Figure 13-2, under production, this divisionalization is by product, with components 1,2, and 3 served by the specialized units of cost, scheduling, and purchasing. Thus, an organization is formed that is flexible and practical, one that makes further growth possible without distorting the basic structure.

FIGURE 13-1

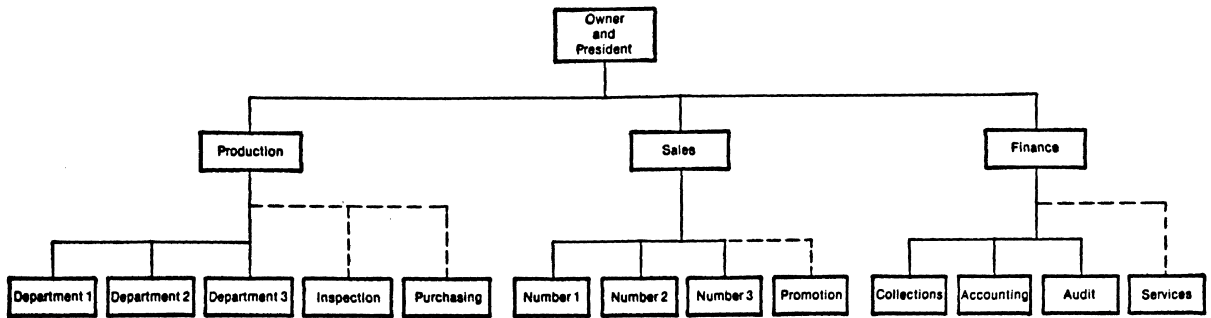
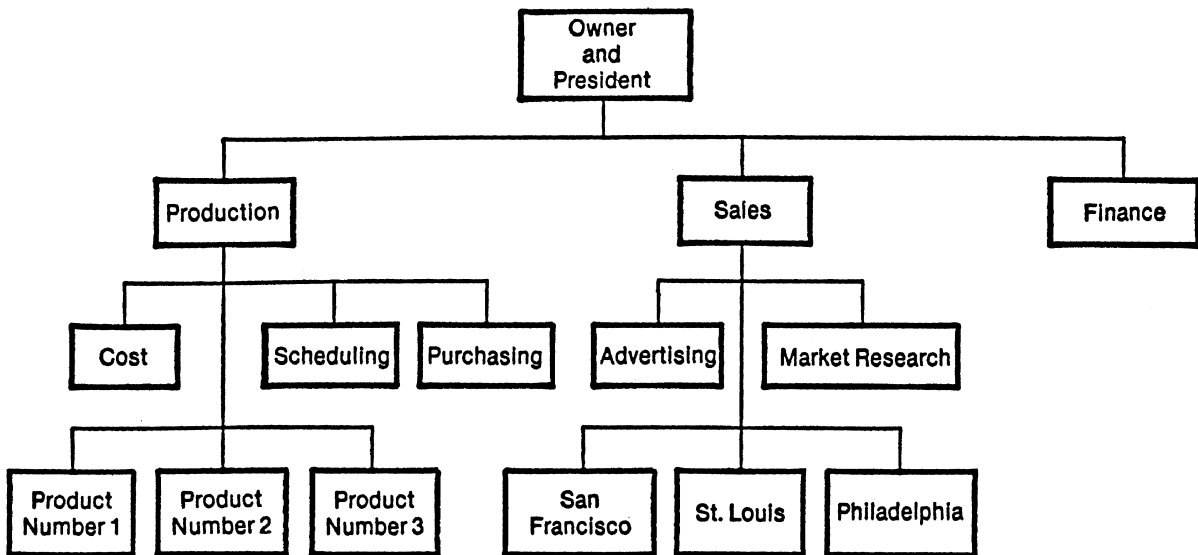


FIGURE 13-2



## When to implement change

When to make an organization change is always significant. Frequently, it is a matter of the manager's judgment; although in some instances the economics of the situation or the critical need for a change may override all other considerations. There are two extremes that can be adopted. The extremes are to make changes (a) gradually over a fairly long period of time or (b) quickly over a brief period. The former, sometimes termed the *infiltration approach*, is conservative, stresses "let's be sure," and permits a high degree of employee consultation and consideration. The latter, or *earthquake approach*, features decisiveness, getting the change accomplished, and letting employees know immediately what the changes are. Frequently, a compromise course between the two extremes is followed.

Successful reorganization normally requires that the manager follow certain salient steps. First, the manager must determine and review the objectives the new organization is set up to accomplish. This forces a broad, overall viewpoint, so important in organizing. The intent is not to achieve just an improved organization but to achieve an improved organization to meet the specific requirements of the reorganizer.

Second, the manager must try to develop the organization that will be most effective in achieving the stated objectives. In doing so, some ideal concepts can be included -- even that of aiming at the perfect organization; but the manager must take care to keep the plan for the proposed organization within reasonable and practical limits. This type brings into clear focus what the manager theoretically would like to have.

Third, the manager must obtain complete facts about the present organization. These facts will help determine where the organization now stands. The facts must be sought and accepted without bias. The available organization materials of the organization can be reviewed, interviews with key employees conducted, and questionnaires circulated. Especially valuable is the information gained about work performed, authority possessed, and duties assumed by the present staff.

Fourth, the manager must decide on the phases required to go from the present to the proposed organization -- people who can be made available for promotion through development; what changes of which activities will probably give better results, and when such changes should probably be made. The timing of these changes, i.e., what phases will be used, and how long will each one be utilized before moving on to the next phase, is vital.

Fifth, the manager must prepare for the reorganization and implement it. Acceptance of the reorganization should be won by explanation, communication, and participation. To a degree, this was accomplished under the third step, but discussion about the specific reorganization plan is strongly recommended to take place during this fifth step. Generally, it is best neither to hurry this work nor to delay it unduly. The manager should pay special attention to those affected by the reorganization. At this stage, modifications, additions, and even rejections will occur. Implementation can follow verbal or written announcement by the top

manager or the superior of the unit being changed. Exact information and all necessary details should follow in a written supplemental communication.

The organization audit -- designed to check whether an organization encourages the attainment of goals, utilizes present employees to their fullest, and contributes to their growth -- is similar to reorganization. As in reorganization, an early step in the audit is to collect and study organization material, such as job descriptions, performance appraisals, work actually done, and qualifications required. One important purpose of this step is to compare job requirements with individual qualifications for each management member. Requirements not adequately possessed are divided into those that can be achieved through development and those that probably cannot be developed within a reasonable period. From all this, various organization patterns and position breakdowns are evolved and evaluated and note is taken of where existing personnel would be placed and what new personnel would have to be obtained.

### **Human reaction to change**

It should be emphasized that most people, while professing to be modern and up-to-date, resist change. This is especially true when the change affects their job. Resistance to change is a natural, normal reaction. It is not a reaction reserved for troublemakers.

Resistance to change may be very explicit or it may be very subtle. The employee who quits a job because of a change in company policy is expressing a resistance to change in a very open and explicitly manner. Another employee who does not quit but becomes very sullen is resisting in a more passive manner.

The manner by which a manager goes about implementing a change often has a significant impact on the acceptance of the change. Several things that a manager can do to reduce resistance to change are:

- 1. Build trust.** If the employees subject to the change trust and have confidence in the manager, they are much more likely to accept the change. If there is an air of distrust, the change is likely to be vigorously resisted. Trust cannot be established overnight. The manager's actions determine the degree of trust by the employees.

- 2. Discuss upcoming changes.** Fear of the unknown is one of the major barriers to change. This fear can be greatly reduced by discussing any upcoming changes with the affected employees. During this discussion the manager should be as open and honest as possible. The manager's discussion should not only explain what the change will be but it should include an explanation of why the change is being made. The more background and detail the manager can give the more likely the change will be accepted by the employees.

- 3. Involve the employees.** A second way to lower resistance to change and to build employee trust is to actively involve the employees in the change process. While employee involvement is not always possible, it can be extremely effective. It is only natural for employees

to want to go along with a change they have helped bring about. A good approach is to solicit employee ideas and inputs as early as possible in the change process.

**4. Make sure the changes are reasonable.** The manager should always do whatever is possible to insure that any proposed changes are reasonable. Sometimes proposed changes that are totally unreasonable come down from upper levels. When this happens, it is usually because upper management is not aware of certain circumstances. In this situation it is the manager's responsibility to do whatever possible to straighten out the situation.

**5. Avoid threats.** The manager who attempts to implement change through the use of threats is taking a negative approach. Such an approach is likely to decrease rather than increase employee trust. Also, most people resist being threatened or coerced to accept something. A natural reaction is "this must be bad news if it requires a threat." Even though threatening tactics may get results in the short run, they may be very damaging in the long run. Such tactics will usually have a negative impact on employee morale and attitude.

**6. Follow a sensible time schedule.** There is no doubt that some times are better than others for implementing certain changes. For example, the week before Christmas would ordinarily not be a good time to implement a major change in a department. Similarly, a major change should ordinarily not be attempted during the height of the vacation season. A manager can often provide valuable insight regarding the proper timing for implementing a change. If nothing else, managers should always use their common sense when recommending a time schedule for a change.



## CHAPTER 14

### STAFFING THE ORGANIZATION

#### LEARNING OBJECTIVES:

After studying this chapter you will be able to:

1. Explain what staffing involves.
2. Formulate an approach to staffing.
3. Implement a process for recruiting.
4. Evaluate a selection process.

#### What is staffing?

It is important to utilize good organization, but it is equally important to place the right people in the various jobs. The quality of the employees usually makes the difference between success and failure of an organization. If incapable employees are being directed by incapable managers it is almost certain that the results will be poor. Therefore it is of critical importance that the task of staffing be expertly performed.

*Staffing* involves screening and developing personnel for the jobs which are created by the organizing function. Staffing includes recruiting, selecting, promoting, transferring, and retiring personnel. Some people consider staffing a separate management function while others consider it a part of the organizing function. For purposes of this course, staffing is considered as a separate management function.

The responsibility for staffing an organization rests on every manager at every level. Usually, the personnel department, when present, provides at least technical help and contributes in accordance with the desire and permissiveness of the manager who has assumed charge in a particular situation. In many cases, the personnel department confines its efforts to screening the applicants and identifying those considered promising; the manager does the final selecting. This is justified on the basis that because the manager is responsible for the work, the manager should have some say in the choice of subordinates. Policies to cover staffing are essential, and their development is the duty of the top executive and immediate subordinates -- the top management team. With such policies established, putting them into effect is the responsibility of the entire management team.

#### An approach to staffing

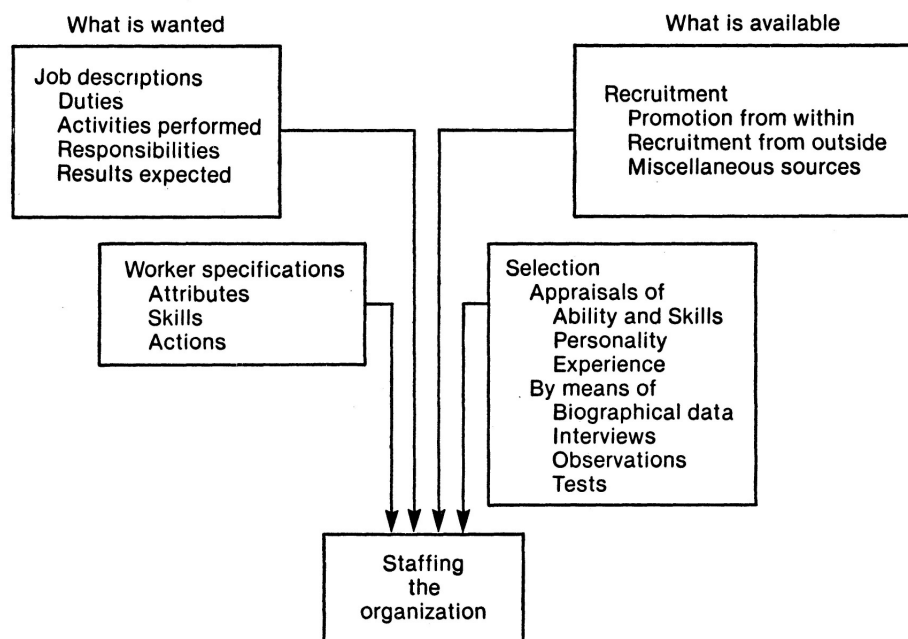
For practical purposes, staffing an organization starts with the makeup of the jobs, expressed by job descriptions. Following this, specifications are needed. Candidates meeting

these job-worker requirements are then recruited, selected, and hired. The entire plan is shown in Figure 14-1. The discussion presented here follows this plan.

The first thing that must be done is to identify the content of each job with questions such as (a) What is the person on this job expected to do? (b) What does the job involve? (c) What are the important relationships the occupant of this job must develop and maintain?

Answering these questions, i.e., spelling out precisely the job content and the relationships that successful occupancy of the job demands, results in a *job description*. It includes the duties, the activities to be performed, the responsibilities, the chief characteristics of the work, and the results expected. A job description, however, does not attempt to list all the duties and all the responsibilities entailed. To do so would make the description cumbersome and impractical. Rather, a job description is always subject to interpretation and, with time, the typical manager modifies the job content to some degree, a natural result of change both by the manager and the organization.

**FIGURE 14-1**



## Recruiting

With the job specifications completed, the next step in staffing the organization is to recruit candidates. In the majority of cases, an almost constant lookout for potential candidates is suggested. This is necessary because of the intense competition for, and the importance of, acquiring competent employees. Aggressive recruitment is required if the firm is to find and

attract the most likely candidates. No organization can afford to coast on its reputation and expect a sufficient number of qualified candidates to apply.

**Legal constraints on employment.** It is important to note that laws exist to assure equal job opportunities to equally qualified candidates. The person doing the selecting must be fully informed regarding what legal provisions are applicable and further must understand how they are enforced. The Civil Rights Act of 1964 forbids discrimination in employment on account of sex, race, color, religion, or national origin. The act applies to selecting, hiring, upgrading, demoting, transferring, selection for training, and rates of pay. The Equal Employment Opportunity Commission (EEOC) receives and also initiates complaints alleging that a violation of title VII of the Civil Rights Act has occurred. After investigation, if the complaint is believed to be valid, the commission tries to remedy the alleged unlawful practice by means of conference, persuasion, and conciliation. If no mutually acceptable agreement is reached by these means, the commission may bring suit in an appropriate federal district court. In addition, the Age Discrimination Act of 1968 forbids discrimination due to age. Minimum hourly wages to be paid are stated in the Fair Labor Standards Act. This was initially passed in 1938 and has been subsequently updated and amended several times.

The sources for personnel are many; none should be ignored, although some will prove superior to others. In general, the following sources tend to be favored:

**Promotion from within.** Filling jobs by advancement from the rank and file upward through the organization is common and popular. Such advancement usually is qualified by the statement, "when reasonable success in the new job appears likely." Such a qualification is intended to decrease the inherent difficulties in following a strict promotion-from-within policy. Using this source promotes morale and a positive attitude among employees. It also supplies potential candidates, but overemphasizing it or using it exclusively can be dangerous.

The facts are that some employees are hired initially for their present jobs only; they are not hired with future promotions in mind. Some lower-level employees are not interested in jobs with more authority and responsibility, and not all employees are qualified for promotion. Employees may become upset and resentful when one, and only one, of their own number is to be promoted. Frequently, the feeling among the group becomes so intense that an easier way is followed -- that of selecting an outsider.

**Recruitment of employees from outside.** When new applications, fresh ideas, and improved vision are believed necessary, but unavailable within the organization, employees may be acquired from the outside. Many times this is the case when the organization enters a different and, to it, a new type of activity or a stagnant position has been reached.

On the other hand, morale problems can be created by selecting employees from the outside. Old-timers, not selected for a given promotion, can become uncooperative and frustrated. Also, outside superiority may be an illusion. It may not be true that a candidate from

the outside is better qualified than anyone already with the organization. Standards for judging qualifications are required.

**Specific recruitment sources.** Advertisements and announcements reach many likely candidates and are effective and widely used. Such sources are highly impersonal and may attract some who are not qualified. Hence, the use of good selection devices are necessary. Employment agencies, both public and private, are favored by some organizations. They can perform creditable work but are often expensive. The colleges, universities, and special schools also are sources for potential employees -- especially for middle-level positions.

## **Selection**

Selection can follow many different patterns. Most include several appraisals by means of biographical data, interviews, observations, and tests. The appraisals do not always follow this order, but they are integrated into a composite of the candidate's qualification. Biographical data, showing personal data, past places of employment, and past accomplishments, give information necessary for employment records but are generally believed to have limited selection value. Interviews -- commonly several interviews by different interviewers for each candidate -- can serve to provide insight into the manner of expression, aims, interests, and values of the candidate. Observations provide information on (a) a candidate's reactions to situations, (b) ideas advanced, (c) mode of operation, and (d) general impression given to others. Tests measure a number of traits and are helpful but not conclusive. The main limitation of tests is lack of agreement as to which traits are required for competency. A battery of tests designed to measure many attributes is commonly relied upon to provide an insight into as many as possible of the candidate's attributes.

## CHAPTER 15

### MOTIVATION AND MODERN MANAGERS

#### LEARNING OBJECTIVES:

After studying this chapter you will be able to:

1. Define motivation.
2. Explain the influence of the group on motivation.
3. Illustrate Maslow's need hierarchy.
4. Explain and give examples of Herzberg's two-factor theory.
5. Summarize what the manager can do.

#### Defining motivation

Motivation deals with people's behavior, and it is a vital element in management. It can be defined as getting a person to accomplish work enthusiastically because that person wants to do it. The manager's task is to create work conditions that will help arouse and maintain this enthusiastic desire. To do this, knowledge of people and skill in dealing with their behavior are essential. Motivation differs among persons; it depends on many factors such as personality, ambition, education, and age.

A manager not motivated for progress and success will find it extremely difficult to motivate others. Self-motivation stems from an intense desire to achieve a certain goal, no matter what obstacle must be overcome. Positive thoughts and adherence to a stated course of action are also motivating factors.

The basic approaches to motivation differ among managers. Three general approaches selected for discussion here are: (a) environment, (b) productivity, and (c) wants-satisfaction. In the *environment approach*, the assumption is that the typical employee will perform best if provided with a comfortable environment. Hence, to motivate, friendliness and personal considerations are extended to the employee, conflicts are minimized, and comfortable conditions of work are provided. Such actions attract applicants, reduce labor turnover, and make for an agreeable work force; but it has not been proven that productivity per employee is thereby increased.

The *productivity approach* stresses rewards based on productivity. Work assignments are specific, and the wage or salary rate is explicitly stated. Firm policies are followed, job descriptions are well-defined, work performance is carefully measured, and special compensation is given for higher performance. A basic thought behind this approach is that a person who performs an activity and is rewarded tends to repeat that activity. On the other hand, if the person is punished as a result of actions, the tendency is not to repeat them. The productivity

approach is used successfully, but it requires measured performance and a clear understanding of the basis for granting the rewards.

In the *wants-satisfaction approach*, an attempt is made to ascertain human wants and to satisfy them through the work situation. The concern here is not with the wants as such but with satisfactions a person will really strive for. People always have wants; as soon as one desire is satisfied, another appears in its place. As a result, people seek continuously to satisfy their needs. Under the wants-satisfaction approach, the manner and the climate under which the work is accomplished are established by skillfully arranging for interplay among the satisfactions and the wants, the relationships among the groupmembers, and the work to be done. The objective is to obtain a self-generated will-to-do, so that the work is accomplished in a manner that satisfies both the employees' wants and the organization's requirements.

All the approaches are used, but recent data indicate that the last two have more potential than the environmental approach.

### **The influence of the group on motivation**

As implied in Chapter 12, individuals seek to satisfy at least a portion of their wants by working with others in a group. Each member contributes something and depends on others to gain wants satisfaction. Frequently, in this process, the individual loses some individual personality and takes on a group complex, and personal wants become a part of the group's wants.

Group behavior must be recognized as an important concept in motivation. It is characterized by teamwork and by mutual dependence of its members on one another. To influence a group, the manager must treat it as a group, not as a mere collection of separate individuals. Group behavior asserts itself in many ways. For example, an individual affiliated with a group will not normally strive harder to satisfy personal wants in any way that brings conflict with the group's accepted norms of behavior. Therefore, when managers wish to bring about a change, the proper approach is to establish the need for the change with several group members and to let them win acceptance for the change from the group. Group members tend to listen to and to believe far more of what one of their members says than of what an outsider says.

Knowing what persons to put in a certain work group, shifting a misfit, and recognizing a bad group situation are basic in achieving motivation where groups are involved. Research confirms that wants satisfaction is maximized when the individuals are free to select their own work group. Likewise, under such conditions, each group member's job satisfactions increase, presumably because each individual is working with employees that the individual likes, prefers to work with, and the behavior adjustment is relatively small.

## **Maslow's need hierarchy**

Wants to be satisfied differ among individuals because they place different values on various types of accomplishments. Perhaps the most common classifications of wants were put forth in the form of a hierarchy by psychologist Abraham Maslow. These are (from lower levels to higher levels): (a) *physiological wants* -- for food, clothing, and shelter; (b) *safety wants* -- for safety and for protection from possible harm; (c) *social wants* -- for belonging and group relatedness; (d) *ego wants* -- for self-esteem and competence; and (e) *self-fulfillment wants* -- for self-development and creativity. These types constitute a hierarchy of wants. The first group (physiological) is the first to be satisfied. After these are satisfied, the next higher wants (safety) are of chief importance, followed, in turn, by social wants, ego wants, and self-fulfillment wants. It is important to note that after a need is satisfied it ceases to motivate until it is again felt.

What can a manager do to create work situations in which these wants can be satisfied? One major action, of course, is to find out what the wants of each employee are. These change with time and conditions; but from observations of the employee, the work record, informal talks, performance ratings, and comments of others, the manager should be able to arrive at a reasonable evaluation. Knowing one's want or wants, it is possible to proceed with trying to satisfy them through a job related activity. This necessitates proficiency in the art of management. The common approach is to provide several simultaneous opportunities, in the hope that one will cause the employee to respond favorably.

All the opportunities require the worker to make a contribution. The impact of an individual's efforts to contribute abundantly in work accomplishment, to offer suggestions, and to achieve good relationships with fellow employees, appear essential for genuine motivation.

## **Herzberg's two-factor theory**

Frederick Herzberg has developed a theory of motivation that deals primarily with motivation through job design. Herzberg's theory is based on the belief that the factors that demotivate or "turn-off" employees are different from those factors that motivate or "turn-on" employees. Herzberg maintains that the factors which tend to demotivate employees are usually associated with the work environment. These factors include such things as job status, interpersonal relations with supervisors and peers, the style of supervision the person receives, company policy and administration, job security, working conditions, pay, and aspects of personal life that are affected by the work situation. Herzberg refers to these factors as *hygiene* or *maintenance factors*. These terms were chosen because these factors are perceived as being preventive in nature. In other words, they will not produce motivation but can prevent motivation from occurring. Thus proper attention to hygiene factors is a necessary but not sufficient condition for motivation. For example, Herzberg contends that pay will not motivate a person (at least for more than a short period of time) but it can certainly de-motivate a person.

According to Herzberg, those factors that motivate people are factors related to the work itself as opposed to the work environment. These factors are called *motivators* and include

achievement, recognition, responsibility, advancement, and the challenges of the job. Herzberg maintains that true motivation occurs only when both the motivators and hygiene factors are present. At best, proper attention to the hygiene factors will keep an individual from being dissatisfied but will not make the individual motivated.

As a solution to motivation problems, Herzberg suggest an approach called job enrichment. Unlike “job enlargement,” or “job rotation,” *job enrichment* involves upgrading the job by adding motivator factors. (Job enlargement merely involves giving a worker more of a smaller type of operation to perform. Job rotation is the practice of periodically rotating job assignments.) Designing jobs that provide for meaningful work, achievement, recognition, responsibility, advancement, and growth is the key to job enrichment.

### **What the manager can do**

There are several things that a manager can do to affect motivation:

**Make the work interesting.** The manager should carefully examine each job under his or her control. The manager should constantly ask “Can this job be enriched in order to make the job more challenging? There is a limit to the extent that people can be expected to perform satisfactorily on very routine tasks. Doing the same simple task over and over again every minute of the workday can quickly lead to employee apathy and boredom.

**Relate rewards to performance.** There are many reasons why managers are reluctant to relate rewards directly to performance. First and foremost, it is much easier to give everyone an equal pay raise. Usually this approach involves less hassle and requires very little justification. A second reason may be because of the union contract. Union contracts generally require that everyone doing the same job be paid the same wage. In other instances, organizational policy dictates that pay raises conform to certain guidelines which are unrelated to performance. Even in these instances, however, there usually are rewards, other than pay, which can be related to performance. These might include the assignment of preferred tasks or some type of formal recognition.

**Provide valued rewards.** Most managers never stop to give any thought to what types of rewards are most valued by employees. Usually managers tend to think of pay as the only reward at their disposal. Many managers truly believe that they have nothing to say about what rewards are offered. The common belief is that these decisions are made only by top management. However, there are many other types of rewards that might be highly valued by employees. Being assigned a new piece of equipment represent rewards that might be highly valued by employees. The important thing is for the manager to know what rewards are at his or her disposal and to know what the employees value.

**Treat employees as individuals.** As discussed earlier, different people have different needs. Different people want different things from their jobs. To treat everyone the same ignores these differences. In today’s highly impersonal world, there is an increasing tendency to



treat employees as if they were computer numbers. Most people like to receive special attention and to be treated as individuals.

**Encourage participation and cooperation.** Everyone likes to feel a part of their surroundings. Similarly, people like to feel that they contribute to their surroundings. It is also natural for people to be committed to decisions in which they have participated. The motivational benefits of true employee participation are undoubtedly high. Yet, in spite of all the potential benefits, many supervisors do little to encourage participation.

**Provide accurate and timely feedback.** No one likes to be in the dark concerning their performance. In fact, a negative performance review may be better than no review. In this situation, a person will at least know what must be done to improve. A lack of feedback usually produces frustration in the employee. This frustration often has a negative impact on employee performance. Performance appraisal is discussed at length in Chapter 19.

## **CHAPTER 16**

### **DIRECTING**

#### **LEARNING OBJECTIVES:**

After studying this chapter you will be able to:

1. Define the concept of directing.
2. Explain how to direct.
3. Differentiate between orders and instructions.
4. Demonstrate the role and relationship needed to direct a group.

#### **Directing defined**

Directing is the activity of integrating the efforts of members of a group so that by accomplishing their assigned tasks they will meet individual and group objectives. All group effort requires direction if it is to be successful in attaining group ends. Each member of the group must have the information required to execute an assigned task. To this end, appropriate plans must be made known to all members in the form of instructions and orders that are recognized as official.

Good direction is not dictatorship. An employee expects to be given the information needed regarding quantity, quality, and time-use limits of the work. It is expected that this information is definite and complete, yet concise, that the job requirements are within one's skills and abilities and that the best facilities available within the organization are provided.

Custom and habit influence directing. As the manner of performing work breaks down into a series of routine situations, customary ways of cooperating and accomplishing the work become established. The directing may consist of a single routine, repetitive order such as: "Prepare 10 units of FM-99 for immediate shipment to Dallas." In contrast, if the direction initiates a new action, the manager must direct more fully. Participation by the employee, adequate communication, and strong leadership are essential to success in directing.

Although a manager is a part of the work group, it is helpful to consider the manager as apart from subordinates. The manager is the one to whom resources are made available. The manager is the one who must select and integrate them for the work at hand. Usually this is relatively uncomplicated for buildings, machines, and capital; but for people, direction is required, and this is a more complex matter. The manager is in a position to greatly influence the

behavior of the group members. The character, trust-worthiness, and attitude of the manager toward the group members will be judged by the subordinates and will influence the manager's effectiveness in directing them. The manager must gain the respect of both peers and subordinates. The role expected of the manager is different from that expected of the group members. The manager knows more about company policies; has foreknowledge of expected changes; and possesses, or at least usually possesses, greater experience. Also, managers stand apart from the other group members because they decide, at least to some extent, who gets what work, who is promoted, who is fired, and who receives a pay raise.

### **How to direct**

Effective directing can best be carried out by one person for one group. Usually, this is the manager, because that person (a) knows the subordinates, (b) is familiar with their skills and abilities, (c) understands their capacities and interest, (d) knows what they can produce, and (e) has observed their behavior. With all this as a background, the manager is well qualified to select the directing technique to best further the aims sought.

Providing information necessary for taking effective action is a cardinal contribution of directing. This is readily seen in the case of the new employee, but it applies equally in the case of the employee of long tenure. The new employee is assisted by briefings about the physical and human environment of the workplace. What information is needed for good performance and how it is to be transmitted are decisions made by the manager. Usually included are (a) location of pertinent equipment within the office or factory, (b) identification of major departments, (c) a job description, (d) the relationship of a given job to other jobs within the organization, (e) suggestions on how to fill out required reports, and (f) information on how a person's performance will be evaluated. If there is to be considerable contact with any other employees, the relationships are explained and personal introductions among the parties are made. Further, if support services are required, the new employee needs to know what these services are and how to go about making use of them.

Orientation is also required for employees who have been with the organization for some time. New assignments and changes in products, methods, and organization, make continuing orientation necessary. But this is not easy. The manager may neglect continuing orientation because other activities seem more important or the manager is busy or fears that poor responses and results will follow. Also, employees tend to grow indifferent toward suggestions and check-ups repeated indefinitely.

It is paramount that subordinates keep their managers informed; otherwise, the managers are handicapped in their directing efforts. Reports and meetings commonly used for this purpose are frequently inadequate. The big questions in the mind of the subordinate are: What should I report? Should all actions be reported and the risk taken of unduly burdening the superior? The answer is: The subordinate should convey only such information as is pertinent and essential for accomplishment of the task. To carry out this mandate requires discernment and courage.

## **Orders and instructions**

An important part of directing is giving orders and directions. Orders and directions can start, stop, or modify an activity. They are used by all managers. As a directional tool, an order is in the nature of a command, requiring a subordinate to act in a certain manner in a given circumstance. The common practice, however, is to express an order informally in nonauthoritarian language, as in "Let's go ahead with the revised design right away." Normally, a personal relationship between the order giver and receiver exists, and the sequence is always from superior to subordinate. To be complete, an order tells what is to be done, who is to do it, and when, where, how, and why. Preferably, it should have such clarity that it can be interpreted only as intended.

Orders are either oral or written, depending mainly on: (a) the degree of trust existing between the giver and receiver, (b) the permanency of their relationship within the organization, and (c) the need for a record for future reference. In some organizations, verbal orders, dealing with important subjects, are repeated by the receiver to insure completeness and accuracy. Also verbal orders can be confirmed in writing if issuance must be verified and a record maintained.

Once an order is issued, the giver should see that it is carried out or is rescinded. Such a practice contributes toward good management. It is not good practice to permit wide variations in the care and completeness with which orders are observed. Also, it is best that the receiver be given orders from one source only. Orders should only be used when needed. An excess of orders causes confusion and waste. The necessity of the orders should be evident, and belief in their meaning and intent is highly desirable. To gain belief in an order, a careful explanation of the "reason why" may be included.

Also used in directing are instructions that serve to supply the how-to-do-it aspect for performing a particular task. Typically, a variety of situations is covered, detailed data are given, and a sequence of steps to follow is outlined. Instructions are difficult to write, and they can take considerable time. However, their use is increasing, primarily because (a) they enable the recipient to go ahead with work in an approved manner, (b) the best how-to-do-it information is determined and standardized, (c) product uniformity is secured, and (d) the development of personnel is promoted.

## **Directing and the group**

Important to the method and approaches that a manager decides to use in his or her directing efforts is the effect on the group. As indicated in Chapters 12 and 13, interactions among the group's members result in acceptance or rejection of managerial suggestions or of changes affecting the members. These reactions should be taken into account in managerial directing efforts. Studies in this area have supplied helpful guidelines. First, the manager who wishes to use the group as an instrument of change in group attitudes, values, or behavior must

keep in mind that (a) those being changed and those exerting influence for change should have a feeling of belonging to the same group and (b) a group highly attractive to its members exerts great influence on them. Studies of actual work situations reveal that, where below standard employees were given the opportunity to enumerate their gripes about factors affecting their production (materials, machines, and working environment), were promised correction of these ills, and were asked to estimate what they could produce under the improved conditions, they set goals 25-40 percent above what they had been attaining. In most cases, they achieved them. In contrast, where the group members were dictated what to produce by nonmembers, there was no increase.

Evidence such as this shows that the reaction and the behavior of the group must be taken into account in the work of directing. Social pressure exists within any group. It influences the individual's decisions and tends to breed conformity or common consent among the members.

## **CHAPTER 17**

### **LEADERSHIP IN MANAGEMENT**

#### **LEARNING OBJECTIVES:**

After studying this chapter you will be able to:

1. Identify who the group leader is.
2. List and define the leader's requirements.
3. Characterize the attitude necessary in a leader.

#### **Who is a leader?**

Every individual has some influence on others; with practice, this influence grows. Some individuals are more influential than others, and some conditions are more conducive to influencing than others. By developing this ability to influence, it is possible to practice leadership. We can view leadership as the ability of a person or leader to influence the behavior of others according to his or her own desires in a given situation.

Leadership is a natural outgrowth of people being associated for some purpose in a group. A few in the group will lead, the majority will follow. Actually, most people want somebody to determine what should be done and how to do it. A leader accepts responsibility and is eager to implement solutions to problems. A leader identifies and understands the wants of nonreaders. Frequently, this is the result of developing an environment of mutual understanding, evolved from many sessions of participation and consultation.

A leader puts plans into action and contributes toward making a plan a reality. The leader communicates the plan to associates, explains the purpose of the action, tells what each member is to do, attempts to generate enthusiasm, and tries to resolve any friction among the members. In essence, the leader motivates and guides the behavior of the nonreaders to fulfill the plan and to accomplish the required work.

Leaders also perform another very important function. They seek to understand the problems that followers are facing and also their feelings toward these problems, their work, their associates, and their work environment. This activity is often overlooked in discussions on leadership. Familiarity with the problems and feelings of associates enables leaders to obtain information and responses that can be used to modify their own behavior in order to improve the quality of their leadership. For example, knowing how associates feel about a certain issue assists the leader in decision making, and operational facts derived directly from those performing the work are essential in appraising the work efforts being made. Further, a favorable motivating effect on the group is present when the leader demonstrates genuine interest in what the members are doing and in what they think about the work they are doing.

Actually, there are mutual interactions between the leader and the nonleaders. It is not uncommon for the nonleaders to influence the leader. Their response to the leader's requests tends to significantly influence the leader's own behavior. Also, many leaders closely observe the behavior initiated by nonleaders. Such observations give the leader clues about the group and suggest possible modifications in the leader's own behavior for more harmonious relationships.

### **Leader requirements**

The leader needs to gain satisfactions in accomplishing specific work and in meeting the wants of the group. The degree of confidence the group has in the leader, as well as the willingness of the group to do what the leader tells them, are fundamental for proper leadership to exist. Followers must believe in their leaders. It is imperative that the leader be aware of the role expected. What is the leader supposed to decide? Does one have the authority to grant wage increases and to fire and hire? What objectives does the leader seek? Answers to such questions are given by the role the leader assumes and the actions taken.

It is equally important that the leader possess the ability to determine what actions will best help accomplish the group's goals. This requires an understanding of how one's actions as a leader affect the members of the group, as well as the work itself. But this ability involves more than making decisions; it also requires that the manager be able to utilize unique situational and interactional factors, so that the best ways to solve problems and accomplish one group's ends are followed and unfavorable responses are eliminated insofar as possible.

Leading is a continuous activity. Obstacles that inhibit the achievement of intended goals suggest modifications in the leadership. The feelings of the group members change, as do their abilities and attitudes. Leadership is dynamic, and to be effective it must be constantly updated.

The type of leadership employed should vary with the particular work situation; that is, the same leadership behavior is not equally effective in all situations. Because the typical leader becomes involved in different situations, it follows that, over a period, a leader must have some flexibility in leading, something that many leaders find extremely difficult. This suggests tailoring the manager's job to a leadership style instead of trying to adapt the leader's style to the job requirements. If this is done, any of the following can be practiced: (a) alter the group's membership to improve the leader's relationship to it, (b) change the leader's formal authority, or (c) modify the task structures—detail some, define others in broad outlines, and leave still others to the initiative and preference of the leader.

### **Leader attitudes**

A very important influence upon leadership is the viewpoint of the leader toward members of the work group. The two extremes of possible viewpoints were labeled Theory X and Theory Y by Douglas McGregor. The major characteristics of Theory X are that most employees: (1) work as

little as possible and resist change; (2) must be persuaded, rewarded, punished, and controlled so that their behavior meets the needs of the organization; and (3) want direction and avoid job responsibilities. In contrast, Theory Y holds that most employees: (1) do not inherently dislike work; (2) have the capacity to assume work responsibility and have potential for development, but management by its actions must make them aware of these capacities; and (3) want to obtain social, esteem, and self-actualizing satisfactions from their work. The major contribution coming from McGregor's work was the suggestion that a leader's attitude toward human nature has a large influence on how the person behaves as a leader. Others have also investigated the relationship between a leader's attitudes and the performance of individuals within the group.

Specifically, the relationship between a leader's expectations of an individual and the resulting performance achieved by the individual have received considerable attention. Note: the relationship between manager's expectations and the resulting performance of subordinates. If the manager's expectations are high, productivity is likely to be high. On the other hand, if the manager's expectations are low, productivity of the subordinate is likely to be poor. Some findings are summarized as follows: What a manager expects of his subordinates and the way he treats them largely determines their performance and career progress. A unique characteristic of superior managers is their ability to create high performance expectations that subordinates fulfill. Less effective managers fail to develop similar expectations, and as a consequence, the productivity of their subordinates suffers. Subordinates, more often than not, appear to do what they believe they are expected to do. *Note:* Ouchi advanced Theory Z, which is based on the Japanese practice of providing long-term employment to workers. This creates job loyalty with a goal of achieving a long-range orientation among workers.

Inasmuch as reference has been made to the type of leadership, let us enumerate the different main types:

1. **Situational leadership.** In this type of leadership the situation is believed to be the most important factor in determining leadership style. Both the leader and the follower adjust to the situation. There is also some adjustment by the followers to the leader, and vice versa. Frederick E. Fiedler's leadership research studies have contributed much to this viewpoint of leadership. According to Fiedler, three situational variables are helpful in determining leadership effectiveness: (1) the leader-led relationship or the amount of confidence the followers have in their leader, (2) the degree to which the followers' jobs are task structured or routine, and (3) the extent to which power is inherent in the leadership position. The interaction of these situational variables suggests what leadership style is most effective for a given situation. In general, Fiedler has found that situations that are highly favorable or highly unfavorable to the leader call for a task-oriented style of leadership. Situations that are moderately favorable to the leader call for a relationship-oriented style.

2. **Personal-behavior leadership.** As implied by the name, the behavior of the leader is emphasized in this type of leadership. The personal-behavior leader is flexible, using in each situation the action believed appropriate—keeping in mind the capabilities, amount of control desired, and whether the leader wishes to decide the issue. The personal-behavior leader can, for



example, be highly authoritarian and even autocratic in one situation, and in another seemingly similar situation permit the subordinate to function with much freedom. Likewise, the leader may represent a combination of behaviors which commonly are believed to be incompatible, such as being benevolent yet autocratic in behavior.

3. **Work-centered or worker-centered leadership.** This type of leadership is closely related to the situational type discussed earlier. Different people in different situations respond differently to different kinds of leadership. While leadership emerges from many forces acting and interacting simultaneously, emphasis can be directed to either the (1) work that is being done or (2) the person doing the work. This gives rise to work-centered or worker-centered leadership. The work-centered style focuses on task performance and accomplishment. In contrast, the worker-centered style focuses on task performance and accomplishment and is sensitive to people and human relations. The former commonly involves work of a routine nature, the leader announces the decisions, and rules are carefully followed. The latter, or worker-centered style, usually offers a minimum of procedures and edicts to follow, participation in decision making is encouraged, and the leader is viewed as a coordinator and thought stimulator. Which type to use depends upon the individual circumstances and what you are trying to achieve. Some feel that worker-centered leadership is always better, but research studies do not confirm this. In many cases the work-centered approach gives excellent results. Characteristics of the group's membership including its expectancies, status, experience, ambitions, and behavior, appear vital in deciding which style to select.

4. **Personal leadership.** Motivations and directives are given by person-to-person contact. A close relationship exists between the leader and each group member. Personalities and an informal atmosphere characterize the situation when personal leadership is followed.

5. **Democratic leadership.** This type stresses participation and utilization of ideas by the group members, who consequently should be well informed about the subjects discussed. Possible actions are presented to the group before implementing them. The group's interest and initiative are emphasized.

6. **Authoritarian leadership.** The basic belief here is that leadership is possessed by the leader to the extent that he or she has authority. It holds that because of the position held, the leader knows best and should decide what should be done. This type of leadership is characterized by stern, factual leaders and carefully defined controls.

7. **Paternalistic leadership.** A fatherly influence exists between the leader and the group. The intention is to protect and to care for the followers' comfort and welfare. Paternalism is well-suited for certain situations, but it can prevent development of the self-reliance of the group members.

8. **Indigenous leadership.** Infinite in variety and form, this type of leadership originates from informal organization groups (see Chapter 12). Different indigenous leaders can exist for different purposes within the same group. The success of many actions is conditioned by indigenous leaders, even though the group is led by formally recognized leaders.

From all these different types of leadership, we can deduce that leadership is a multidimensional, complex relationship. It involves a leader, followers, and the situations created by the tasks of the organization, social values, economic conditions, technological facilities, and political considerations.

A leader must have followers, and regardless of how one became a leader, one must be able to retain followers. How does a person do this? First, a leader represents a worthy cause. Awareness of this is made clear to others. Followers believe in the cause and want to take part in its attainment. Second, the leader's personality attracts, and followers see in the leader the personification of good attributes they would like to have, or recognize in the leader those attributes required to get the job done. Third, ability to inspire convinces others that one knows what to do, has the ability to give courage and confidence to the followers, and convinces followers that the leader understands them and will help them.

## **Qualifications**

To qualify for leadership necessitates possession of certain mental and philosophical concepts. Above all, a leader needs a basic philosophy of life and of work that will provide a framework for leadership. One should believe deeply in the possibility of advancement and progress, should be convinced that the goals can be achieved, and should have the capacity to achieve them. Further, the leader must also be willing to pay the price that leadership demands. Sacrifices must be made and frustrations must be expected. Further, the leader should be willing to operate in the light of publicity. Some will praise one's efforts; others will be envious and loudly voice criticism. Last, the leader accepts the fact that what is accomplished depends in part on the era in which one lives. Emergencies may spawn opportunities for the leader; changing social and economic conditions may frustrate a leader's best efforts.

Current research reveals that successful leadership requires a high degree of perception about people involved in certain situations. Development of the following skills is paramount:

**1. Objectivity toward human relations and behavior.** The leader must be able to view people and their behavior in an unbiased, unemotional manner. The leader should not have a habit of prejudging. For each major action, one must be able to identify the influences and the responses elicited. The leader should have the ability to decide what caused the responses to take place and be able to verify conclusions.

**2. Communicative and social proficiency.** The leader should be able to talk and write forcefully and to accurately summarize the statements of others. In addition, the leader should be approachable, know the groups and their informal leaders, let goals be known, and strive to cooperate with associates.

**3. Empathy.** The ability to project oneself mentally and emotionally into the position of a follower helps a leader to comprehend the employee's views, beliefs, and actions. Empathy

gives respect for the other person's point of view, even though one may disagree with that person's values and beliefs.

4. **Self-awareness.** The leader needs to know the impression he or she makes on others. Efforts should be made to fill successfully the leadership role expected by the followers.

5. **Teaching.** One of the best ways to lead, and, showing by example, develop, and inspire people is by teaching. The leader must be able to use teaching skills advantageously through inspiring, demonstrating, correcting, and showing by example.

### **Turbulent Times: Managing Crises and Unexpected Events**

Organizations face various level of crisis every day—from the loss of computer data, to charges of racial discrimination, to a factory fire, to a flu epidemic. Organizational crises have been compounded by global crises—Columbine High School, Enron, September 11th, and the war in Iraq. Dealing with the unexpected is part of the manager's job, but now events occur more frequently and with greater and more painful consequences.

Recent thinking on *crisis management* suggests five leadership skills:

1. *Stay calm*

A leader's emotions are contagious, so leaders have to be calm, focused, and optimistic about the future.

2. *Be visible*

When the situation seems ambiguous and frightening, people need to feel that someone is in control.

3. *Put people before business*

The companies that weather a crisis best are those in which the managers make people and human feelings their top priority.

4. *Tell the truth*

Managers should get as much information from as many sources as they can, do their best to determine the facts, and then be open and straightforward about what is happening.

5. *Know when to get back to business*

Managers need to get back to business as soon as possible.

## **CHAPTER 18**

### **COMMUNICATING**

#### **LEARNING OBJECTIVES:**

After studying this chapter you will be able to:

1. Demonstrate effective communication.
2. Elaborate on and give examples of good communication.
3. Differentiate among different types of communication.

A major skill required of a manager is the ability to communicate effectively. Gaining acceptance of policies, seeing that instructions are clearly understood, and bringing about improvements in performance depend on effective communication. The manager who is unable to communicate what work is required will not succeed in getting the work accomplished. In turn, if employees are unable to communicate freely with a manager, information needed to manage successfully will be withheld.

Communication is a means by which management is facilitated; it is not an independent activity but an essential part of almost everything a manager does. Some estimates state that two thirds of a manager's time is spent on communicating. Because of its importance to the management process some people have erroneously considered communicating to be synonymous with managing. Communicating is vital, but it is only a part of management.

Communicating is more than telling or writing. It also includes understanding. There is no communication if you are not understood, and this lack of understanding poses the biggest difficulty encountered in communication. The illusion of communication is believing that mutual understanding has taken place because one person has spoken to another or because what has been written by one has been read by the other. Remember what is meant to be expressed is not always what is understood. There are several reasons for communication failures. These include (a) semantical differences, (b) the receiver interprets communication in light of personal background and experience, and (c) the receiver has a tendency to read into the communication what one anticipates or expects. In other words, communication is conditioned by the receiver's interpretation of the message and the prevailing attitudes of the communicator and the receiver not only toward each other, but also toward the subject at hand. These and related difficulties of communication may result in what is commonly called a communication breakdown. To minimize these breakdowns managers should strive for a climate of confidence in which communication can take place. To prejudge that which will be said or written weakens the chance for a successful communication. Communications should be specific and simple. A good rule to follow is "one message, one subject." Timing is also vital.

Communication is especially dynamic, and saying the right thing at the right time is extremely important. The sender of a message should always allow the receiver an opportunity to respond. The flow of information from the receiver to the sender is called feedback. Feedback allows the sender to know if the receiver has understood the message. Similarly, it is advantageous for the recipient to take time to reflect on the answer and not to respond with the first reaction that comes to mind. With reflection, the receiver can comprehend better what is really being communicated and hence, is likely to give a better response. It is helpful to keep in mind that communication is performed basically to influence behavior. The perceptions of the receiver, not the intentions of the sender, govern what is understood. A person's self perceptions, perceptions of others, and how others perceive that person influence the interpretation of a message and the resulting behavior.

It has been estimated that the average person spends approximately 45 percent of communication time on listening. Unfortunately, however, people retain less than 25 percent of what they hear. Effective listening is not natural to most people. How well a person listens is very much dependent on the attitude of the listener toward the speaker. When the listener respects the speaker and believes the listener will profit from the communication, the likelihood increases that the person will listen more effectively to the speaker. Figure 18-1 lists some effective guides for good listening.

Remember that communication involves not only factual but also emotional considerations. It involves the whole personality. When communication takes place a response is stimulated in addition to information being transmitted. Moreover, a relationship is set up by the messages sent and the responses received. Therefore, communication can have a major impact upon human relations.

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#### **FIGURE 18-1**

#### **EFFECTIVE LISTENING GUIDES**

1. Stop talking!  
You cannot listen if you are talking.  
Polonius (Hamlet): "Give every man thine ear, but few thy voice."
2. Put the talker at ease.  
Help a person feel free to talk.  
This is often called a permissive environment.
3. Show a talker that you want to listen.  
Look and act interested. Do not read your mail while someone talks.
4. Remove distractions.  
Don't doodle, tap, or shuffle papers.  
Will it be quieter if you shut the door?
5. Empathize with talkers.  
Try to help yourself see the other person's point of view.
6. Be patient.  
Allow plenty of time. Do not interrupt a talker.

Don't start for the door or walk away.

7. Hold your temper.

An angry person takes the wrong meaning from words.

8. Go easy on argument and criticism.

This puts people on the defensive, and they may clam up or become angry.

9. Ask questions.

This encourages a talker and shows that you are listening.

It helps to develop points further.

10. Stop talking!

This is first and last, because all other guides depend on it.

You cannot do an effective listening job while you are talking.

- Nature gave people two ears but only one tongue, which is a gentle hint that they should listen more than they talk.
  - Listening requires two ears, one for meaning and one for feeling.
  - Decision makers who do not listen have less information for making sound decisions.
- 

### **Good communication**

Good communicating motivates. It encourages a feeling of participation; it excites greater interest in the work. Sharing information of mutual interest and benefit gives vital support to an employee's sense of belonging. Many advocate daily contacts between managers and nonmanagers. Explaining plans and policies, telling of changes to take place in the future, encouraging suggestions, and asking opinions are but a few of the many ways in which motivation can be enhanced.

### **Types of communication**

Communication can be classified into various types, as (a) downward and upward communication, (b) formal and nonformal communication, and (c) oral and written communication. In the first type, communication flows from the top to the bottom levels of an organization and from the lower to the higher managerial levels. Downward communication may consist, for example, of orders, instructions, and memos; upward communication may be through reports, suggestions, and grievances.

Formal communication uses established organization channels and standard media, such as departmental meetings, telephone calls, company magazines, posters, and direct-mail letters. Informal communication is that which exists because of personal and group interests of people. Commonly called the grapevine, it is direct, fast, and flexible; yet it does not have access to official information sources. Although the grapevine often carries accurate information, it sometimes carries rumors and distorted information.

The terms *oral communication* and *written communication* are self-explanatory. The ability to speak effectively is a requisite for most managers. Many find it helpful to jot down the major points to be included, so that the overall oral presentation can be well organized. Some

repetition for emphasis is usually desired. Oral communication permits a face-to-face exchange, fosters a friendly spirit, and encourages questions and answers.

Formal meetings within an organization have become commonplace. This is in keeping with the high value currently placed on group decision making, encouraging group participation, and keeping employees informed. To be of greatest value, a meeting should be: (a) planned, with each member given the purpose, program, and time; (b) specific, with presentation and discussion kept directly applicable to the issue at hand; (c) illustrated visually, especially if complicated concepts are involved; and (d) recorded, to supply a record of what was covered and decided.

Written reports exemplify written communication. When reports are in written form, they can be used for future reference and details, if warranted, can be included. The keys to effective written communication are the familiar four C's— completeness, clarity, conciseness, and correctness. Common words, simple sentence structure, a writing style that flows naturally, and a presentation of material that is easy to follow should be used.

The following suggestions are helpful in attaining effective communication:

**1. Know fully what you are trying to communicate.** Clearly visualize what information you want to resolve. Before you speak or write, know what it is that you want to communicate. A brief outline is often helpful for organizing your thoughts.

**2. Communicate adequately—no more, no less.** A constant challenge in communicating is to avoid talking or writing too much or too little. Excess is all too common. Some management members are literally buried under communication. They can't digest all of it and much is not essential to their work. Likewise, inadequate communication is undesirable. Failure to give enough information to perform a job can be devastating. Both extremes must be avoided. Whether communication is adequate can be determined by being alert to the receiver's reactions and by using past communication experience as a guide.

**3. Realize that communication may be altered in its distribution.** Change in a communication is likely to take place as it is interpreted by each person in a line of receivers. The change may be either favorable or unfavorable. Usually, people dislike passing on facts about unfavorable results, so the communication is sweetened. This happens more frequently in upward than in downward communications. The manager should be aware of this possible change and practice the necessary control to minimize it.

**4. Use proper symbols and visuals.** All communication employs symbols to represent persons or things that can be distinguished. Symbols include signs, words, colors, and characters. They were developed to meet the needs of transmitting information; they stand for something meaningful. For example, the algebraic sign = stands for equals. Words are meaningful, but some words are far more definite or exact in meaning than are others. The word iron conveys a fairly precise meaning, whereas the word excellent is subject to different meanings by different persons

and by the same person at different times. Symbols that do not have universal meanings are likely candidates to cause communication break-downs. Visuals help the human mind to comprehend information. A simple chart or diagram can often convey the message better than many words.

**5. Seek feedback.** Feedback is necessary for accurate communication. Feedback not only lets the sender know whether or not the receiver understands the message, but it also gives the receiver the opportunity to express his or her views concerning the message. It is only through this exchange of ideas that true communication can take place.



## **CHAPTER 19**

### **APPRAISING AND DEVELOPING EMPLOYEES**

#### **LEARNING OBJECTIVES:**

After studying this chapter you will be able to:

1. Discuss a system of employee appraisal.
2. Evaluate various methods of performance appraisal.
3. Implement a process to develop employees.
4. Explain the process of improving the acquisition of knowledge and techniques.
5. Facilitate the participation in job situations.

#### **Employee Appraisal**

Appraisal in itself has a motivating quality. When managers evaluate the performance and the potential of subordinates, these managers become better aware of what subordinates are doing, what subordinates are not but should be doing, and how best they, themselves, might improve their own managerial skills and ability.

Appraising consists of two basic steps: (a) evaluating the incumbent on a number of selected factors and (b) interviewing the incumbent to discuss the evaluation. There are differences of opinion regarding the basis on which the factors should be selected. Some advocate the basis of accomplishment and select such factors as the amount of cost reduction achieved, savings from improved inventory control, and the increase in sales per salesperson. On the other hand, many believe that behavior is the proper basis and that factors revealing behavior should be chosen. These would include such factors as judgment, initiative, self-expression, and drive. The assumption is that a manager with such-and-such behavior will attain a certain level of management proficiency.

The second step of appraising is interviewing to establish an evaluation dialogue with the incumbent. The interview is an ideal means to let the subordinate know how he or she is doing and to point out areas for improvements. It should be planned. Recommended action includes: (a) concentrating on the employee's strengths, (b) asking where the employee believes she or he can improve, (c) giving specific examples and reasons for improvement, and (d) encouraging the subordinate to express feelings and beliefs.

Interviews can also be used to obtain additional specific information. Such information can be added to the appraisal data as well as to any pertinent records of achievements and operations that may be maintained. Various forms are available to assist in securing data helpful for appraisal purposes.

#### **Methods of performance appraisal**

Ideally performance appraisal should be based on objective factors which can easily be measured. However setting relevant and objectively measurable criteria is very difficult for many jobs. The difficulties associated with using more subjective measures of performance are numerous. Employees resist being placed in the position of being the defendant. Another problem is the temptation of the appraiser to favor friends and close associates. A third problem is convincing the employees that the system is fair.

Some of the most commonly used performance appraisal methods include:

1. Essay appraisal.
2. Graphic rating scale.
3. Forced-choice rating.
4. Work-standards approach.
5. Ranking methods.
6. Management by objectives.

**1. Essay appraisal.** This method merely requires the evaluator to write a series of statements concerning the employee's strengths and weaknesses past performance and potential for promotion. The biggest problem with this method is that the length and content of the appraisal can vary considerably depending on the evaluator.

**2. Graphic rating scale.** With this technique the evaluator assesses an individual on factors such as initiative, dependability, cooperativeness attitude and quality of work. A frequent problem with this method is that evaluators have a tendency to rate everyone a little above average making comparison of the ratings difficult.

**3. Forced-choice rating.** There are many variations of the forced-choice rating method, but the most commonly used one requires the rater to choose from several seemingly equal groups of statements those that are most or least applicable to the employee being appraised. Because the evaluator does not know which statements carry the best scores, it is difficult to play favorites. One very practical drawback to this method is that it is relatively expensive to develop.

**4. Work-standards approach.** Under this method, output standards which reflect an acceptable level of performance are established. Employees are then evaluated relative to how they performed in comparison with the standard. Generally this method is more applicable for evaluating lower-level and production-oriented employees.

**5. Ranking methods.** The two commonly used ranking methods are alternative and paired comparison ranking. Under alternative ranking, the employees are simply ranked from best to worst. Under the paired-comparison method each employee being appraised is compared one at a time to all other employees being appraised. The major problem with the paired-comparison method is that it becomes unwieldy when comparing large numbers of employees.

**6. Management by objectives.** Management by objectives (MBO) which was introduced in Chapter 4, can be used as an appraisal method. It is especially applicable for appraising other managers and professional personnel. The basic idea is for the appraisal to be based on the degree to which the employee's objectives, as set up under MBO, were achieved.

### **Developing employees**

Developing employees is basic; it is a fundamental pillar of good management. Planned efforts for development are needed. Dependence on development by informal association is slow and frequently ineffective. Capable employees are an organization's greatest asset. Efforts to improve this asset are actually an investment. From the viewpoint of possible growth and return, it is one of the best investments that can possibly be made within any organization.

Certain characteristics of employee development efforts merit discussion. They include:

**1. Top-management support.** This must be strongly evidenced by supplying vigorous leadership, providing required resources and facilities, and setting realistic goals.

**2. Trainee self-development.** Planned efforts for development should include making it possible for the trainee to follow self-development. To succeed, the urge to acquire the necessary skills must be strong within the trainee.

**3. Use of an organization chart, manual, and job descriptions.** These media supply basic detailed background information against which the developing requirements can be ascertained. Through their use, the existent relationships, makeup of jobs, and what is believed necessary for satisfactory performance can be assembled in a usable form.

**4. Establishing the need for employees.** The approximate number, location within the organization, and time for placements and replacements should be determined. These are estimates that establish the overall goals of the development efforts.

**5. Pervasive and continuous efforts for development.** No one individual, or one department, is completely responsible for employee development. The entire management team, in the ultimate, shares this responsibility. In addition, the development efforts should have continuity. The successful programs include assignments for each meeting or all the meetings held within a certain period. Also, application of knowledge acquired is mandatory.

**6. Placement of trainees.** All promises of promotion or transfer should be withheld until the opening is definite and the trainee has successfully completed the development requirements. Development efforts should not be viewed as hurdles for the trainee to surmount, but rather, participation in them should be looked upon as an opportunity and a privilege.

Currently, the trend is to develop learning employees, not learned employees. In today's dynamic organization, employees must be adaptable.

Another trend is emphasis on an organized approach, but with less use of formal programs. The development efforts are more informal and are conducted more by operating managers and less by personnel specialists. Potentially capable persons are placed in demanding assignments and given the opportunity to show what they can do. Literature on technical advances, business environment, and social responsibility have become more readily available.

More and more of the formal employee development work is being conducted during the employee's regular working hours. A specific period is allocated, during which it becomes the main effort, not an adjunct to regular duties.

The media used for employee development work are numerous—the list grows daily. For convenience, we have classified the major methods into two groups, including those stressing (a) acquisition of knowledge and techniques and (b) participation in job situations. In the following sections, these types are identified and briefly discussed.

### **Acquisition of knowledge and techniques**

**1. Lectures, programmed instruction, study courses, and readings.** A personal and concise presentation of knowledge, by a recognized expert and qualified speaker, is offered through lectures. Programmed instruction focuses the trainee's attention on major points as the person responds to questions asked in a prescribed sequence. Teaching machines may be used with this technique. Study courses, supplemented with readings, make specialized knowledge available to participants.

**2. University courses, conferences, and seminars.** These popular media feature the exchange of ideas, practice in analyzing situations, and formulation of recommendations for coping with managerial problems.

**3. Business games, role playing, and in-basket exercises.** By use of business games the players gain practice in decision making, experience in competition, and practice in dealing with quantitative data and results. Role playing simulates face-to-face conflict situations and necessitates deciding upon and applying courses of action to resolve the conflict. A packet of background information and written communications, placed in the "in-basket," can be used to develop the trainee's action on the issues.

### **Participation in job situations**

- 1. On-the-job training.** On-the-job training is the most common method of training employees and is normally administered by the employee's manager or a senior employee. On-the-job training (OJT) involves showing the employee the job and demonstrating or explaining how it is to be done. The advantages of OJT are that no special facilities are required and the trainee is engaged in production work during the training period.
- 2. Vestibule training.** Vestibule training is a variation of regular on-the-job training. In this type of training, the trainee uses procedures and equipment similar to those used on the

actual job but located in a special area called a vestibule. Trainees are taught by skilled persons and are able to learn the job at their own speed without the pressures of production schedules.

3. **Job rotation, special assignments, and strategic jobs.** Job rotation involves occupying successive jobs throughout the organization. It supplies a broadening experience, increased acquaintance with other personnel, and an opportunity to ascertain the jobs preferred by the trainee. On special assignments, complete freedom to handle the problems and to observe results of efforts is offered. Strategic jobs are those holding extraordinary opportunities for self-development, such as making far-reaching decisions and solving especially tough problems.
4. **Coaching and counseling.** Coaching consists of telling and showing subordinates the best methods to follow for their work and familiarizing them with the policies involved. To counsel means to skillfully talk with another person and, by means of questioning, listening, and observing, to be able to suggest what change in the counselee's behavior is advisable or what course the person should pursue in resolving a problem. The counselor's role is to help the counselee gain a better understanding of oneself.

There is considerable interest in trying to measure the productivity of employee development efforts. Are the expenditures in time and dollars justified? We want to think so because we are convinced that employee development must be undertaken. Tangible gains, such as a decrease in production cost and greater productivity, reflect, in part, improved employee performance, but whether these are directly related to employee development has not been proved. If we turn to intangible gains—greater enthusiasm, better teamwork, improved decisions—the general feeling is that employee development helps but it probably is not the sole contributor.

## CHAPTER 20

### CONTROLLING

#### LEARNING OBJECTIVES:

After studying this chapter you will be able to:

1. Characterize and explain the concepts associated with controlling.
2. Measure performance.
3. Implement an effective process for controlling.

A manager manages in order to achieve desired or planned results. The success or failure represented by these results is judged in the light of the goals set. This implies controlling; that is, evaluating performance and, if necessary, correcting what is being done to assure attainment of results according to plan. Controlling is in the nature of a checkup to make sure that what is done is what is intended. It is also intended to alert the manager to a potential problem before the problem becomes serious.

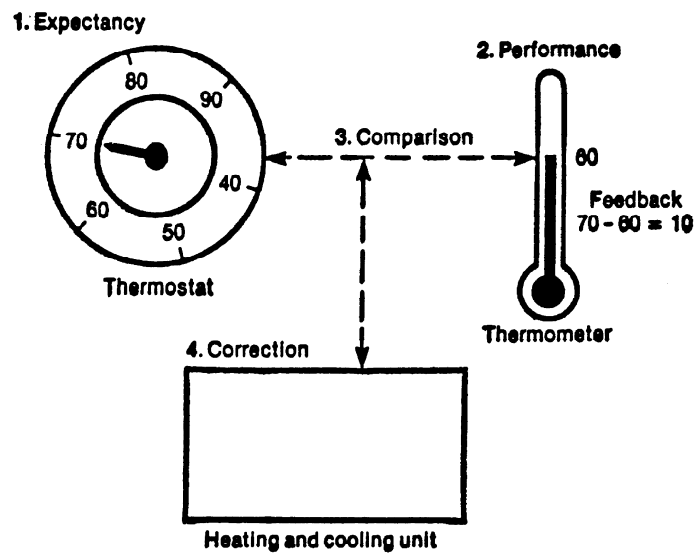
Controlling is a basic process, identical wherever found and whatever controlled. The well known temperature-regulating device for the home is a good example of the controlling process. This device includes a thermostat, a thermometer, and a heating and cooling unit (see Figure 20-1). Suppose the thermostat is set at 70°, with the expectation that this temperature will be maintained. We can call this Step No. 1, Expectancy. Next, the thermometer registers 60°, the temperature actually being received. We can call this Step No. 2, Performance. Next, comparing expectancy to performance, or 70° to 60°, we note a difference between what is expected and what is being received. This is Step No. 3, Comparison. This reveals a quantity known as feedback, which in the illustration is 10° (70° minus 60°). Last, based on the results of the comparison, Step No. 4, Correction, is taken. In the illustration, the heating and cooling unit goes into action and raises the temperature from 60° to 70°, which is the temperature desired.

Expectancy is commonly expressed by a standard which evolves from the planning process. It entails answering questions such as: How many units should a machine operator complete in one hour? How many sales should a salesperson make each day? What should be the ratio of dividends paid to earnings? Such questions require quantitative answers, and this implies that the expectancy is measurable. This is true for some types of activities, especially those of the intermediate and lower managerial levels. But, in other cases, measurement of expectancy poses extreme difficulty, for the kind of measuring unit that the measurement requires does not exist. In such cases, somewhat rough measuring units are employed. An example is when the expectancy is the improvement of attitude. When the expectancy is extensive, as when an entire program or total accomplishment is involved, the measurement standard commonly consists of objectives, stated in general terms.

## Determining performance

Performance should be expressed in the same terms as expectancy, so that the subsequent comparison, or Step No. 3, will be valid. Several means are available for the determination of performance: observations, reports, and statistical data. Direct observation provides an intimate picture of the performance. The quantity and quality of work, methods followed, and general work environment lend themselves to such observation, and it is an excellent means for checking and reporting intangibles such as observing the morale of a working group and watching development efforts being applied to trainees. On the other hand, observations are time-consuming, the observer's purpose may be misunderstood, and the data acquired tend to be general rather than precise.

**FIGURE 20-1**



Reports take the form of either: (a) oral, such as interviews and group discussions, or (b) written, which may be purely descriptive or may contain statistical data. The oral report is satisfactory for situations having very wide coverage or where opportunity for questions is needed to clear up any misunderstanding or secure additional information. Written reports are best when comprehensive, detailed information must be conveyed. They supply a permanent record and facilitate compilation of trend analyses. Written reports should be reviewed periodically to determine if they are still needed. The format should be designed so that it permits easy reading and expedites the controlling for which the report is used.

Statistical data effectively express certain types of performance. Most common are those dealing with time, work, space, capital, debt, and profit. Statistical measurements, ratios, and key figures are frequently featured.

The third step of the universal control process—comparison—in effect evaluates the performance. Where a difference is found between expectancy and performance, judgment is required to assess the significance of the differential. In some cases, a slight deviation may be serious; in others, it is not. In the interest of good management, the comparison should be made as near to the time of performance as possible. Of greater importance in the comparison step are the exceptional cases—the comparisons showing deviations much greater than what can be considered normal. A manager concentrates controlling efforts on these cases. Normally, the exceptional cases are in the minority, thus simplifying the controlling. In addition, controlling by using key points is widely practiced. Usually, there are certain critical or key activities that appear to regulate or to strongly influence what is going on. The key points will vary with the type of organization. So-called bottleneck operations, customer orders received, inventories, and shipments are a few of them. By carefully controlling the key areas, satisfactory and economical controlling can be attained.

The last step, correction, consists of seeing to it that operations are adjusted to obtain results compatible with expectancy. Modifications in any one or all of the managerial activities may be required. For example, a method may be changed, an authority entanglement straightened out, or better motivation achieved. The corrective action should be taken by the person having authority over the work. Within each department or division, it is advisable to hold one management member responsible for implementing the required corrective work in that unit. This tends to personalize the controlling, and assures that a person known to all has the obligation to see that required corrective action is taken.

### **Effective controlling**

Proper controlling assists good human relations. The human response to controlling is a key consideration. Controlling can and should be used to promote favorable relationships among all employees. Controlling should be a positive, helpful activity. The effective manager uses controlling to share information, to praise the high performer, and to spot those needing help and determine what kind of help they need. At the same time, employees want to contribute good performances, they want to know and to meet the requirements of their jobs, and they want recognition when they meet these requirements. In all these efforts, controlling can be of genuine assistance and, hence, can contribute to good human relations.

Certain desirable characteristics of controlling should be mentioned. First, the type of control should be in keeping with the individual requirements of the activity. The size of the operation and its location in the organization are usually most important. Second, deviations requiring correction should be identified promptly, even before they occur, as is possible in some types of control—for example, statistical quality control. Also, controls should be worth their cost. Benefits from controlling are relative and depend on the importance of the activity, the contribution made, and the size of the organization. Further, controls should tie in with the organization pattern, thus making it easier to assign responsibility for control to persons in charge of the respective activities and to provide usable control data to the manager concerned. Finally, the control should show the way to corrective action, including finding out where the action needs to be taken, who is to be responsible for taking action, and what the action should be.



Controlling assists in identifying managerial problems. Inasmuch as problem identification is a constant challenge to managers, this contribution of controlling is highly relevant. A manager becomes aware of a problem when deviation from a goal is noted. Often, more than one deviation is related to the problem, and the manager's task is to isolate these deviations and to determine the relevancy of each one.

## **CHAPTER 21**

### **KEY AREAS FOR CONTROL**

#### **LEARNING OBJECTIVES:**

After studying this chapter you will be able to:

1. Discuss a process for quantity control.
2. Evaluate the outcomes of quality control.
3. Define what time control means.
4. Identify time robbers.
5. Formulate and implement cost control procedures.

As noted in the previous chapter, controlling is concerned with knowing what is going on in comparison with what is planned. In order for a manager to keep abreast of what is going on it is usually necessary to set up controls in certain key areas. This chapter discusses several of these key areas.

#### **Quantity control**

Quantity control is intended to bring about an orderly and desired flow of products and/or services. The purpose of quantity control is to keep tabs as to how the different products and/or services are moving. Good quantity control ensures that certain products and services do not run out. It also helps identify products and services that are moving ahead of plan as well as those that are lagging behind plan. Inventory control is a major part of quantity control. Inventories can generally be classified into one of these categories: (1) raw material, (2) in process, or (3) finished goods. Raw-material inventories serve as a buffer between purchasing and production. In-process inventories are used to buffer differences in the rates of flow through the various production processes. Finished-good inventories act as a buffer between the final stage of production and shipping.

Inventories provide added flexibility by allowing the organization to:

1. Purchase, produce, and ship in economic batch sizes rather than in small jobs.
2. Produce on a smooth continuous basis even when the demand for the finished product or raw material may fluctuate.
3. Prevent major problems when forecasts of demand are in error or when there are unforeseen slowdowns or stoppages in supply or production.

If it were not costly, every organization would attempt to maintain very large inventories in order to facilitate purchasing, production scheduling, and distribution. However, inventories

can be quite expensive. Some of the potential costs include factors such as insurance on the inventory, inventory taxes, storage costs, obsolescence, spoilage, and the opportunity cost of the money invested in the inventory. When making inventory decisions, management therefore must answer three basic questions: (1) what items to carry in inventory, (2) how much of the selected items to order and carry, and (3) when to order the items.

## **Quality control**

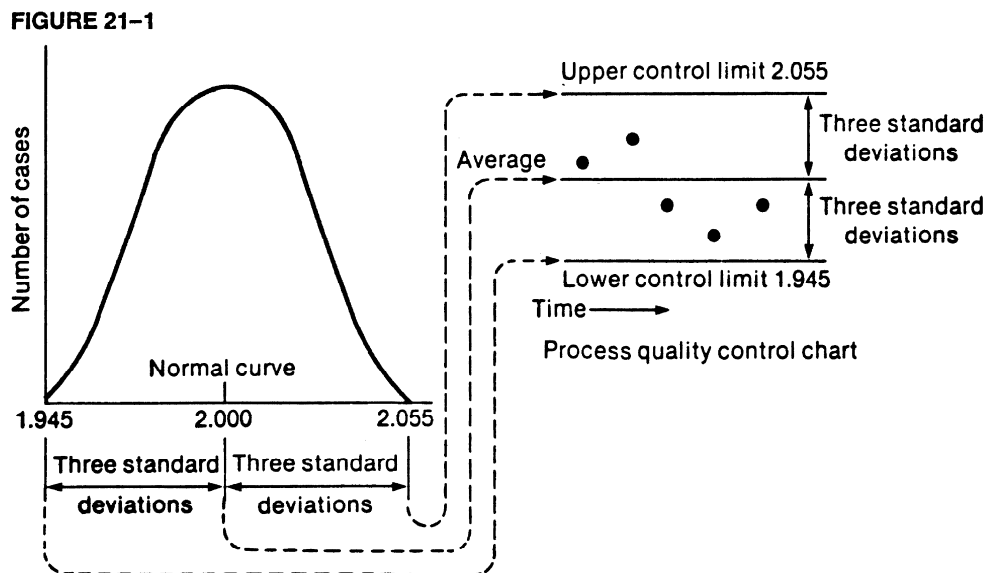
Quality is a relative term that means different things to different people. To dispel a common erroneous notion, it should be understood that in quality control, the goal is maintenance of a satisfactory quality for the intended purpose, not the highest quality possible. Specifically, the goal sought is that which is the best in terms of: (a) consistency with the price being charged for the product or service and (b) satisfactory and dependable results being provided.

Either inspection control or process quality control can be employed. In inspection control, identification of those products or services that are accepted is made by inspection. Normally, an inspection standard, in the form of a quality specification, represents the expectancy. What is being produced is then compared to the inspection standard by means of a visual or a testing examination. When every product or service is inspected, we have 100 percent inspection; when less than the entire lot is inspected, we have what is called sample inspection. Probability studies and experience help to determine the degree of sample inspection followed. Because inspection requires expenditures of time and money, the lowest percentage of sample inspection which will give satisfactory results should be followed. The inspection can be performed manually, by either a trained inspector, by a worker or, in some cases, by a machine. Process quality control is based on statistical theories and probability applied to samples produced by a process. While a process is in operation, measurements are taken of the product or service and compared to predetermined standards. With these data and a quality control chart, a decision is reached as to whether the operation should be held up for correction. *Note:* Use of quality circles is a form of participative management. A quality circle is a group of up to 10 individuals (managers and subordinates) who do similar work and who volunteer to meet weekly to discuss and solve work-related problems. However, management retains the right to make the final decisions.

Figure 21-1 shows a normal, or bell-shaped, curve and a statistical quality control chart. The normal curve shows the frequency or variation of a phenomenon from its middle or average value. That is, in measuring the length of a large number of "identical parts" supposedly two inches long, it will be found that there is some variation from the two-inch dimension. A large portion will measure exactly two inches, but some parts will be slightly over length, some slightly under; a few will be quite a bit over length, and a few quite a bit under. With size plotted on a horizontal scale and count or occurrence on the vertical scale, a bell-shaped curve is obtained. How much these over- and undersized parts are dispersed from the normal or average size is revealed by a statistical measurement called the standard deviation. Within three standard deviations to the left of normal and three standard deviations to the right are included 99.73 percent of the total number of parts.

This means that, within plus or minus three standard deviations, practically all the parts are included, and their length measurements will fluctuate as a normal behavior between the length dimension on the left (1.945) and on the right (2.055), as indicated in Figure 21-1.

More important, these variations between 1.945 and 2.055 can be considered due to chance. They result from the nature of the process followed. However, when from this same process a length is obtained outside these limits, say 2.060, it is not due to chance or expected variation but to an assignable cause. If this happens, we know something has gone wrong in the process, such as slippage of the cutting fastener, dulling of a tool, or movement of the setting of the cutting machine. The machine can then be stopped and the assignable cause located and corrected, after which the work can be resumed.



Referring again to Figure 21-1, by swinging the bell-shaped curve 90° and eliminating the extremes of the curve, the statistical quality control chart shown on the right of the figure is obtained. In this type of chart, variations from normal are shown on the vertical scale, and time is plotted horizontally. Samples from production are inspected periodically, and the results are plotted on the chart. If they are within the upper and lower control limits shown on the chart, the products are satisfactory in terms of quality. If they are outside the control limits, corrective action needs to be taken. As indicated by the above example, the real value of a control chart is to alert the manager to a potential problem before the problem becomes serious.

## Time control

Using time effectively is a challenge to every manager. Managers are under pressure to reduce the time spent on reading material, attending meetings, and reaching decisions. Time is a

limited resource. A manager often complains that time wasted on telephone calls and meetings could be avoided if some reliable way of appraising them in advance were available. Some management members are hard pressed to explain how they spend their days other than in frittering away time on trivial details.

There are several things that managers can do to make better use of their time. Some of these include: (a) use of an assistant or a secretary to protect the manager against time wasters; (b) adoption of a return-on-manager time criterion for decision-making efforts; and (c) collection of time data on current activities and evaluation and improvement of time utilization.

A good assistant or secretary can help the manager save time. Such help can take care of the endless paper work, assist in avoiding unwanted visitors, and screen telephone calls.

The concept of using a return-on-manager time criterion places top priority on having a manager available to manage and to make necessary decisions. This approach helps ensure that the manager does not spend a significant portion of his or her time doing relatively unimportant tasks or tasks that should be delegated. In essence, this approach emphasizes that, in many decision-making situations, the alternative that will require the least managerial time in its implementation might well be the best selection. Advocates of the return on-manager-time criterion point out that when problems arise, the manager's time is vital and this is when the manager is most needed.

Surprisingly few managers are aware of how they spend their time. It is essential for managers to recognize time-use controls in their work, and the first step is to get the facts concerning present time utilization. Having each manager keep a daily log by 30-minute intervals, showing what activity is performed and whether or not it is basically managerial, is recommended for this purpose. Recording such information for a period of several weeks provides a reasonable sample. Study as such data reveals what the time robbers are, the trivia and nonessentials that should be eliminated, and what improvements can be made.

### **Time robbers**

There are many time robbers that can consume a manager's time. Being aware of these time robbers is the first step to overcoming them.

**Meetings and conferences.** Meetings and conferences can chew up large blocks of time, especially if they are not closely controlled. If you are in charge of a meeting, you should:

1. Evaluate the need for the meeting; if it is not necessary, cancel it.
2. Carefully decide who should attend and invite only those who need to be there.
3. Circulate an agenda in advance of the meeting.
4. Stick to the agenda.
5. Start and end the meeting on time.

**Telephones.** Telephone conversations can be time-consuming. Learn how to end a conversation without offending the other party. If you initiate the call, you might say, "Mary, this is Joe. I know you are as busy as I am today, so I won't take up much of your time. . . ." If that doesn't work or if the other party initiated the call, you might have your secretary give a prearranged signal, which gives you reason to say, "Mary, my secretary is signaling me and I have to run."

**Visitors.** If an unscheduled visitor shows up at your office, stand up immediately. In most instances, the individual will not sit down as long as you remain standing. While you are standing, ask what you can do for the caller. Whatever the response, you then have the information with which to make a decision to deal with the situation either now or later. If the decision is to deal with the matter later, you are in a much better position to end the visit than if the caller had been allowed to sit down.

**Excessive paperwork.** As mentioned earlier a good assistant or secretary can reduce your paperwork significantly. When dealing with paperwork that requires a response, use the telephone whenever possible. Another suggestion is to jot your reply on the bottom of the request and return the original document. Learn to sort your paperwork rapidly. Throw away the junk or unnecessary pieces and prioritize other paperwork.

## **Cost Control**

Cost is a consideration in almost every activity. There are many types of cost, and before discussing cost control, we should consider what these various types of cost are.

Most costs can be categorized into one of five general categories: (a) direct labor cost, (b) direct material cost, (c) factory overhead cost, (d) selling cost, and (e) administrative cost. The name of each of these is self explanatory, with the possible exception of factory overhead cost, which includes expenditures for all manufacturing activities that cannot be classified as direct labor or direct material. A direct cost is an expenditure that is incurred in working directly on the product or service; an indirect cost is one that is not. Direct labor cost is illustrated by a wage paid a machine operator, indirect labor cost by the wage paid a staff clerk. All indirect manufacturing costs are included in factory overhead.

All these various types of cost are interrelated (see Figure 21-2). Along the bottom of this figure is total cost, which is made up of general administrative (or administrative overhead) expense and total selling and manufacturing cost. This latter amount is broken down into selling expense and factory cost. Factory cost is broken down into factory overhead and prime cost. Prime cost, in turn, is made up of direct labor and direct material costs.

Cost control follows the universal control process. Hence, the first concern is for cost expectancy, which is determined by a cost analyst who employs: (a) scientifically determined standards, (b) past performance, and/or (c) judgment. Expectancy is sometimes expressed as

standard cost and represents the normal amount of expenditures, including direct labor, direct material, and factory overhead, for accomplishment of specific work.

Performance, evidenced by expenditures, is obtained from pertinent accounting records; for example, information on direct labor cost, direct material cost, and factory overhead are obtained from accounting data. For maximum usefulness, these cost data are expressed in cost per unit. This is quite simple in the case of direct labor or direct material; but for factory overhead cost, the allocation per unit poses some difficulty. Initially, factory overhead is expressed as a lump sum. It is usually allocated to units of production on the basis of direct labor hours or direct labor cost. For instance, the basis of application may be to allocate two dollars of overhead for each dollar of direct labor expended on a product.

Comparison between cost expectancy and cost performance is self-explanatory. The next control step, correction, if any, may take many different forms. If the cost of direct materials is too high, the correction might consist of setting new standards or securing new sources of supply. A number of effective approaches can be followed.

**1. Zero defect program.** Emphasis is directed to the importance of the human element and the self-will of personnel to give high-quality performance. Actually, a zero defect program can be viewed as a technique for quality control, but it is included here because the elimination of mistakes is very important in keeping costs in line. Zero defect programs try to develop employees' cost consciousness and to get them to want to achieve high standards of work excellence.

**2. Value analysis.** The effort here is to improve the relationship of product worth to product cost. Value is interpreted as either (a) use value or (b) esteem value. From this value approach, what are believed to be unnecessary costs are identified. Then, substitute materials and methods are suggested for these excess cost areas. It boils down to substituting lower-cost labor or material wherever possible yet retaining satisfactory service of the given product or service.

**3. Planning, programming, budgeting system (PPBS) and zero-base budgeting (ZBB).** Useful in streamlining and rationalizing spending, PPBS is used primarily by government and large private organizations. Its aim is to obtain the greatest cost effectiveness or to acquire the most benefit from what is expended. Information concerning both expenditures and benefits is quantified. For example, the government expresses expenditures in dollars and compares this to a dollar estimate of the benefits to be gained by society or by citizens as a result of these expenditures. Although not always easy to apply, PPBS is viewed by many managers as a significant approach to cost controlling.

Another technique, zero-base budgeting, has come into increased usage in both government and industry. Basically, it requires that each dollar included in the budget must be justified even if a similar amount appeared in the previous year's budget. It is designed to eliminate or curtail expenditures on low-priority programs.

**FIGURE 21-2**

			Direct labor	Direct material
		Factory overhead	Prime cost	
	Selling expense	Factory cost		
General administrative cost	Total selling and manufacturing cost			
Total cost				



## CHAPTER 22

### OVERALL CONTROLS

#### LEARNING OBJECTIVES:

After studying this chapter you will be able to:

1. Develop a system of overall controls.
2. Compute the return on investment and use the Du Pont formula.
3. Illustrate the use of break-even analysis.
4. Describe the overall controls.

Overall controls apply to the entire organization or a large portion of it and are not confined to a particular activity. These controls provide a mean for (a) measuring the performance of the total organization, rather than a part of it; (b) ensuring that total performance is consistent with overall plans; and (c) controlling semiautonomous units.

Most overall controls are financial. This is to be expected because finance is the common denominator or language of each activity and is the binding force among activities. Also, financial controls help the manager keep expenditures properly related to goals.

Various tools or media for overall controlling are available. Most of these stress comparison of performance to expectancy.

**Income statements.** Income statements show the components of net earnings or net loss for a given period. They are useful for identifying the revenue and expense items that have accounted for success or failure. Frequently, the data for consecutive years are included, thus increasing the usefulness of the statements by revealing significant trends. An income statement can be forecast for a forthcoming period and can be used as a goal toward which to strive. The more complete the organization unit to which it applies, the more accurate the information provided. Usually income statements are applied to the entire organization, but they may be successfully used at the divisional and even departmental levels.

**Control reports.** Control reports consist of special written reports which pertain to any one, several, or all of the departments of an organization. Figure 22-1 illustrates a simple control report. Selected data, expressed as percentages of sales, are indicated for two periods. By comparing data, one can see that the profit margin looks unfavorable, yet sales have increased slightly. The culprits are production costs, up 5.2 points, of which labor costs are up 1.3 points.

**Budget summaries.** Budget summaries are widely used in overall controlling. As summaries of the individual budgets of an organization, they reflect the expectancies and

performances of selected items and reveal the degree of success in obtaining objectives. Through budget summaries, responsibility for performance is readily ascertainable. Deviations can be quickly spotted, and explanations for significant differences can be requested.

**FIGURE 22-1**

	<i>Last period</i>	<i>This period</i>
Profit margin .....	7.9	3.6
Administrative overhead .....	18.2	17.8
Sales .....	102.2	103.8
Personnel .....	35.5	35.6
Advertising .....	3.7	3.5
Production .....	24.0	29.2
Labor .....	9.8	11.1
Raw materials .....	3.1	3.0
Equipment .....	—	—

**Ratios.** Ratios involve the comparing of selected financial values in evaluating the overall performance of an organization. The values usually are taken from the income statement and the balance sheet. Ratios sometimes used are: (a) current assets to current liabilities, (b) net sales to working capital, (c) net sales to inventory, (d) administrative experiences to sales, and (e) long-term debt to total capital. Careful interpretation of the significance of each ratio to the organization's overall operations is mandatory. Normally, more than one ratio is used to gain understanding of the overall picture. With experience, satisfactory ranges for each ratio used can be developed. For example, a manager may employ the value range of 6.50 to 7.00 for the net sales to working capital ratio in order to ensure the availability of funds to finance the current volume of sales activity.

### **Return on investment and the Du Pont formula**

Return on investment (ROI) is also a ratio, but it has become so popular that it merits separate discussion. This ratio is the rate of return an organization or a division realizes from the capital allotted to it. The reference unit should be, at least, a large segment of the organization, because for this ratio the accuracy of data available for any smaller unit is open to question. Return on investment reveals areas where capital is being effectively employed, and this information is helpful in obtaining a desired balance in the use of facilities. ROI may be calculated directly by dividing earnings by investment or E/I. However, a more common approach is to multiply the turnover ratio (Sales/total investment) by the margin ratio (Net earnings/Sales). This gives the same end result as the direct calculation, and allows the analyst to contrast the turnover and margin ratios. Figure 22-2 illustrates the formula for making these calculations.

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**FIGURE 22-2**

$$\begin{aligned} \text{ROI} &= \frac{\text{Net earnings}}{\text{Investment}} = \frac{\text{Net earnings}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Investment}} \\ &= \text{Margin ratio} \times \text{Turnover ratio} \end{aligned}$$

---

This formula, known as the *Du Pont formula*, combines the income statement and balance sheet into this otherwise static measure of performance. Margin is a measure of profitability or operating efficiency. It is the percentage of profit earned on sales. This percentage shows how many cents attach to each dollar of sales. On the other hand, asset turnover measures how well a division manages its assets. It is the number of times by which the investment in assets turns over each year to generate sales.

The breakdown of ROI is based on the thesis that the profitability of a firm is directly related to management's ability to manage assets efficiently and to control expenses effectively.

**EXAMPLE**

Consider the following financial data for a division:

Investment	\$100,000
Net earnings	\$18,000
Sales	\$200,000

$$\text{Then, ROI} = \frac{\text{Net earnings}}{\text{Investment}} = \frac{\$18,000}{\$100,000} = 18\%$$

Alternatively,

$$\text{Margin} = \frac{\text{Net earnings}}{\text{Sales}} = \frac{\$18,000}{\$200,000} = 9\%$$

$$\text{Turnover} = \frac{\text{Sales}}{\text{Investment}} = \frac{\$200,000}{\$100,000} = 2 \text{ times}$$

Therefore,

$$\text{ROI} = \text{Margin ratio} \times \text{Turnover ratio} = 9\% \times 2 \text{ times}$$

The breakdown provides a lot of insights to managers on how to improve profitability of the firm. Specifically, it has several advantages over the original formula for profit planning. They are:

(1) Focusing on the breakdown of ROI provides the basis for integrating many of the management concerns that influence a division's overall performance. This will help managers gain an advantage in the competitive environment.

(2) The importance of turnover as a key to overall return on investment is emphasized in the breakdown. In fact, turnover is just as important as profit margin in enhancing overall return.

(3) The importance of sales is explicitly recognized, which is not there in the original formula.

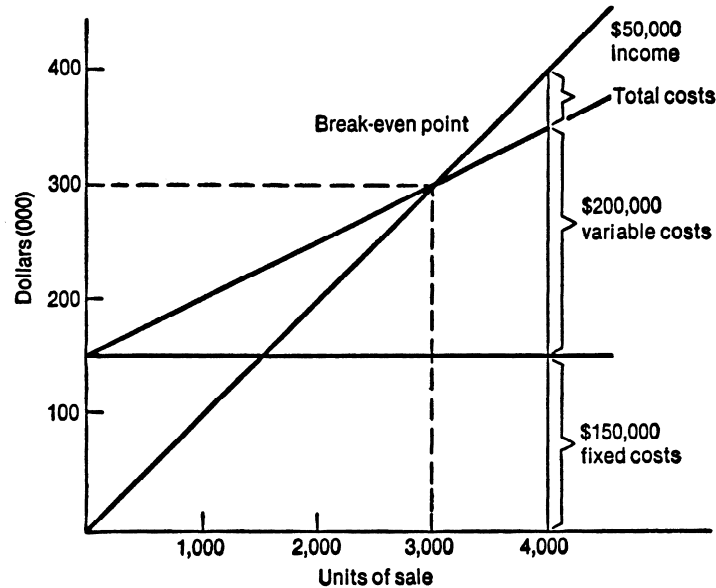
(4) The breakdown stresses the possibility of trading one off for the other in an attempt to improve the overall performance of a company. The margin and turnover complement each other. In other words, a low turnover can be made up for by a high margin; and vice versa.

### **Break-even analysis**

Break-even analysis is used to determine the mix of fixed and variable costs most desirable to maximize profits in keeping with sales expectancy. When fixed costs are increased, that is, when additional machines and facilities are acquired, the organization is committed to a larger volume of operations in order to break even. The cost of utilizing the increased facilities will be the same regardless of sales volume. In contrast, variable costs fluctuate directly with sales volume. The break-even point is the sales volume at which zero income is realized. To maximize profits, the company should try to maximize sales and reduce costs. Figure 22-3 shows a break-even chart. At sales of 4,000 units or \$400,000, profits are \$50,000, fixed costs are \$150,000, and variable costs are \$200,000. The break-even point is 3,000 units or \$300,000 of sales. If future sales can be stimulated to a level of only about \$250,000, the company should first try to adjust its fixed and variable costs downward. If this effort fails, the company should consider going out of business, for in the long run all costs must be covered.

**Audits.** Audits are employed to verify financial statements, to appraise the accounting and financial operations, and to evaluate general management practices and results. External auditing is performed by members of an outside accounting firm and is essentially a verification of the financial statements. Many organizations, especially large ones, have an external audit on an annual basis. The mere routine of external auditing tends to exercise some degree of control over the organization's personnel. Internal auditing is performed by accountants in the employ of the organization. In addition to checking the accuracy of the data and verifying that acceptable accounting practices are being followed, internal auditing is used to check compliance with plans, policies, and procedures. It is in this latter area that its real contribution is made. Procedures seem to have a way of being ignored and misunderstood and of becoming outdated and obsolete. Internal auditors disclose areas needing controlling and help management avoid serious breakdowns. However, internal audits have their disadvantages; for example, (a) they can be expensive; (b) by themselves, they are ineffective—they simply detect trouble if it exists; and (c) they often fail to completely persuade the responsible line manager to institute the needed corrective action.

FIGURE 22-3



Another type of audit is the management audit. Basically, this is a periodic assessment of managerial performance. The past, present, and future are taken into account. The aim is to determine if acceptable results are being obtained from the managerial team. Usually, only the broad concepts are included, with emphasis given to (a) the interrelatedness of activities and their contribution toward achieving organization goals and (b) the inadequacy or absence of necessary efforts. The management audit is impersonal and is confined to auditing; it does not implement recommendations.

To conduct a management audit, a list of qualifications or attributes is formulated, and each is weighted according to a scale of values. Much judgment is required in developing such a list. The following general attributes are frequently emphasized: (a) financial stability, (b) sales trends, (c) employee relations, (d) vendor relations, (e) production service efficiency, and (f) profit trends.

### Computers and overall control

Computers have made feasible new types of overall controlling because it is now possible to process huge quantities of data and to efficiently determine the dynamic relationships among many factors. The effect of one activity, such as manufacturing output, results in changes in many related activities, including inventory levels, shipping, selling, credit extending, billing, and collecting. By measuring the change in one and relating it to each of the others, it is possible

to identify the interrelationships and to exercise controls on the key activities bringing about the major changes. Extending the scope of the investigation leads to a better insight into cyclical business behavior under conditions of change than we have ever before been privileged to know. A considerable amount of research work is being done regarding the application of the computer to overall controlling.

## **CHAPTER 23**

### **TOTAL QUALITY MANAGEMENT (TQM) AND JUST-IN-TIME (JIT)**

#### **LEARNING OBJECTIVES:**

After studying this chapter you will be able to:

1. Define the concept of quality.
2. Explain and give examples of Total Quality Management (TQM).
3. Detail the costs of quality.
4. Discuss the relationship between Activity-Based Management (ABM) and optimal quality costs.
5. Illustrate and explain Just-In-Time (JIT).

In order to be globally competitive in today's world-class manufacturing environment, firms place an increased emphasis on quality and productivity. Total quality management (TQM) is an effort in this direction. Simply put, it is a system for creating competitive advantage by focusing the organization on what is important to the customer. Total quality management can be broken down into: "Total": that is the whole organization is involved and understands that customer satisfaction is everyone's job. "Quality": the extent to which products and services satisfy the requirements of internal and external customers. "Management": the leadership, infrastructure and resources that support employees as they meet the needs of those customers.

#### **Quality Defined**

A quality product or service is one that conforms to customer satisfactions. Generally, there are two types of product quality - quality of design and quality of conformance. Quality of design measures the functionality of a product or service. It is the decision of a designer to include or exclude certain features from a product. It is really measured by the customer through appearance, operation, and reliability. Quality of performance measures how closely products and services match the intent of the design. This traditionally has been the focus of quality management program. In this regard, quality refers to doing it right the first time.

#### **Total Quality Management**

Total quality management (TQM) is supported by two key beliefs that quality is what the customer says it is, and that it must be thoroughly integrated into the very fabric of the organization, including its basic strategies, culture, and management systems. It is essentially an endless quest for

perfect quality. It is a *zero-defects* approach. It views the optimal level of quality costs as the level where zero defects are produced.

This approach to quality is opposed to the traditional belief, called *acceptable quality level (AQL)*, which allows a predetermined level of defective units to be produced and sold. AQL is the level where the number of defects allowed minimizes total quality costs. The rationale behind the traditional view is that there is a tradeoff between prevention and appraisal costs and failure costs. As you increase prevention and appraisal costs, you expect to see failure costs decrease.

Studies indicate that the total cost of poor quality, or the cost of not doing the right things right the first time, is 20 percent of gross sales for manufacturing companies and 30 percent for service industries. If U.S. production of goods and services is estimated at \$4.5 trillion (as it was in 1994), then the potential for savings from improved quality is a staggering almost \$1 trillion that can be saved or redirected for better use. Quality experts maintain that the optimal quality level should be about 2.5% of sales. The accounting department should be a major force in the firm that keep track of and report quality costs.

### *Principles of TQM*

Making a product right the first time is one of the principal objectives of TQM. Implementing a successful TQM program will in fact reduce costs rather than increase them. There is no question that better quality will result in better productivity. This is based on the principle that when less time is spent on rework or repair, more time is available for manufacturing, which will increase productivity.

When an organization maintains accurate records of its cost of quality, TQM will demonstrate that effective quality assurance geared towards prevention versus correction will pay for itself. A good example of this is the situation where it is possible to eliminate 100% inspection with a good statistical process control (SPC) program. Elimination of high reject rates results in fewer products being repaired, reworked or scrapped with the obvious reductions in cost.

Tying the cost of quality to TQM is necessary in order to motivate management who is cost motivated in both industry and government. In a TQM environment, management will start utilizing the cost data to measure the success of the program. The corporate financial planner can determine that overall product costs are being reduced by the TQM program. Given this success in the prevention of defects, the following failure costs will be reduced or eliminated:

1. Rework or repair
2. Inspection of rework
3. Testing of rework
4. Warranty costs
5. Returned material
6. Discounts, adjustments and allowances



It is obvious that the cost of prevention in TQM is minor when taken against the above listed failure costs.

A checklist of TQM features are as follows:

- A systematic way to improve products and services
- A structured approach in identifying and solving problems
- Long term
- Conveyed by management's actions
- Supported by statistical quality control
- Practiced by everyone

### *Elements of TQM*

The major elements of TQM are straight-forward and embrace a common-sense approach to management. However, each of the individual elements must be integrated into a structured whole to succeed.

The elements are as follows:

#### *1. A Focus on the Customer*

Every functional unit has a customer, whether it be an external consumer or an internal unit. TQM advocates that managers and employees become so customer-focused that they continually find new ways to meet or exceed customers' expectations. We must accept that quality is defined by the customer. Meeting the customer's needs and expectations is the strategic goal of TQM.

#### *2. A Long Term Commitment*

Experience in the U.S. and abroad shows that substantial gains come only after management makes a long-term commitment, usually five years or more, in improving quality. Customer-focus must be constantly renewed to keep that goal foremost.

#### *3. Top Management Support and Direction*

Top management must be the driving force behind TQM. Senior managers must exhibit personal support by using quality improvement concepts in their management style, incorporating quality in their strategic planning process, and providing financial and staff support.

#### *4. Employee Involvement*

Full employee participation is also an integral part of the process. Each employee must be a partner in achieving quality goals. Teamwork involves managers, supervisors, and employees in

improving service delivery, solving systemic problems, and correcting errors in all parts of work processes. Management should bring the employees together for a brainstorming session.

#### *5. Effective and Renewed Communications*

The power of internal communication, both vertical and horizontal, is central to employee involvement. Regular and meaningful communication from all levels must occur. This will allow an agency to adjust its ways of operating and reinforce the commitment of TQM at the same time.

#### *6. Reliance on Standards and Measures*

Measurement is the springboard to involvement, allowing the organization to initiate corrective action, set priorities and evaluate progress. Standards and measures should reflect customer requirements and changes that need to be introduced in the internal business of providing those requirements. The emphasis is on "doing the right thing right the first time".

#### *7. Commitment to Training*

Training is absolutely vital to the success of TQM. The process usually begins with awareness training for teams of top level managers. This is followed by courses for teams of mid-level managers, and finally by courses for non-managers. Awareness training is followed by an identification of areas of concentration, or of functional areas where TQM will first be introduced. Implementing TQM requires additional skills training, which is also conducted in teams.

#### *8. Importance of Rewards and Recognition*

Most companies practicing TQM have given wide latitude to managers in issuing rewards and recognition. Here, a common theme is that individual financial rewards are not as appropriate as awards to groups or team members, since most successes are group achievements.

### **Costs of Quality**

Market shares of many U.S. firms have eroded because foreign firms have been able to sell higher quality products at lower prices. In order to be competitive, U.S. firms have placed an increased emphasis on quality and productivity in order to:

1. produce savings such as reducing rework costs
2. improve product quality

Studies indicate that costs of quality for American companies are typically 20-30% of sales. Quality experts maintain that the optimal quality level should be about 2.5% of sales.

Costs of quality are costs that occur because poor quality may exist or actually does exist. More specifically, quality costs are the total of the costs incurred by (1) investing in the prevention of nonconformances to requirements; (2) appraising a product or service for conformance to requirements; and (3) failure to meet requirements.

Quality costs are classified into three broad categories: prevention, appraisal, and failure costs. *Prevention costs* are those incurred to prevent defects. Amounts spent on quality training programs, researching customer needs, quality circles, and improved production equipment are considered in prevention costs. Expenditures made for prevention will minimize the costs that will be incurred for appraisal and failure. *Appraisal costs* are costs incurred for monitoring or inspection; these costs compensate for mistakes not eliminated through prevention. *Failure costs* may be internal (such as scrap and rework costs and reinspection) or external (such as product returns due to quality problems, warranty costs, lost sales due to poor product performance, and complaint department costs). Figure 23-1 summarizes these quality cost components.

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**FIGURE 23-1**

## **QUALITY COSTS - GENERAL DESCRIPTION**

### **PREVENTION COSTS**

The costs of all activities specifically designed to prevent poor quality in products or services. Examples are the costs of new product review, quality planning, supplier capability surveys, process capability evaluations, quality improvement team meetings, quality improvement projects, and quality education and training.

### **APPRAISAL COSTS**

The costs associated with measuring, evaluating or auditing products or services to assure conformance to quality standards and performance requirements. These include the costs of incoming and source inspection/test of purchased material, in process and final inspection/test, product, process, or service audits, calibration of measuring and test equipment, and the costs of associated supplies and materials.

### **FAILURE COSTS**

The costs resulting from products or services not conforming to requirements or customer/user needs. Failure costs are divided into internal and external failure cost categories.

### **INTERNAL FAILURE COSTS**

Failure costs occurring prior to delivery or shipment of the product, or the furnishing of a service, to the customer. Examples are the costs of scrap, rework, reinspection, retesting, material review, and down grading.

## **EXTERNAL FAILURE COSTS**

Failure costs occurring after delivery or shipment of the product, and during or after furnishing of a service, to the customer. Examples are the costs of processing customer complaints, customer returns, warranty claims, and product recalls.

## **TOTAL QUALITY COSTS**

The sum of the above costs. It represents the difference between the actual cost of a product or service, and what the reduced cost would be if there was no possibility of substandard service, failure of products, or defects in their manufacture.

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## **Activity-Based Management and Optimal Quality Costs**

Activity-based management supports the zero-defect view of quality costs. Activity-based management classifies activities as: (1) value-added activities and (2) nonvalue-added activities.

- Quality-related activities (internal and external failure activities, prevention activities, and appraisal activities) can be classified as value-added and nonvalue-added.
- Internal and external failure activities and their associated costs are nonvalue-added and should be eliminated.
- Prevention activities that are performed efficiently are value-added. (Costs caused by inefficiency in prevention activities are nonvalue-added costs.)
- Appraisal activities may be value-added or nonvalue-added depending upon the activity. For example, quality audits may serve a value-added objective.

Once the quality-related activities are identified for each category, resource drivers can be used to improve cost assignments to individual activities. Root or process drivers can also be identified and used to help managers understand what is causing the cost of the activities.

## **Just-In-Time (JIT)**

The inventory control problem occurs in almost every type of organization. It exists whenever products are held to meet some expected future demand. In most industries, cost of inventory represents the largest liquid asset under the control of management. Therefore, it is very

important to develop a production and inventory planning system that will minimize both purchasing and carrying costs.

Effective purchasing and management of materials is a high priority in most manufacturing firms. Material cost, as a proportion of total product cost, has continued to rise significantly during the last few years and hence is a primary concern of top management.

In recent years, the Japanese have demonstrated the ability to manage their production systems effectively. Much of their success has been attributed to what is known as the *Just-In-Time (JIT)* approach to production and inventory control, which has generated a great deal of interest among practitioners. The "Kanban" system--as they call it-- has been a focal point of interest, with its dramatic impact on the inventory performance and productivity of the Japanese auto industry.

We provide an overview of the Just-In-Time (JIT) approach and its impact on cost management. Some examples of implementation of JIT by U.S. firms are given.

#### *What Is Just-In-Time (JIT)?*

JIT is a demand-pull system. Demand for customer output (not plans for using input resources) triggers production. Production activities are "pulled", not "pushed," into action. JIT production, in its purest sense, is buying and producing in very small quantities just in time for use. The basic idea has its roots in Japan's densely populated industrial areas and its lack of resources, both of which have produced frugal personal habits among the Japanese people. The idea was developed into a formal management system by Toyota in order to meet the precise demands of customers for various vehicle models and colors with minimum delivery delays.

As a philosophy, JIT targets inventory as an evil presence that obscures problems that should be solved, and that by contributing significantly to costs, large inventories keep a company from being as competitive or profitable as it otherwise might be. Practically speaking, JIT has as its principal goal the elimination of waste, and the principal measure of success is how much or how little inventory there is. Virtually anything that achieves this end can be considered a JIT innovation.

Furthermore, the little inventory that exists in a JIT system must be of good quality. This requirement has led to JIT purchasing practices uniquely able to deliver high-quality materials.

JIT systems integrate five functions of the production process--sourcing, storage, transportation, operations, and quality control--into one controlled manufacturing process. In manufacturing, JIT means that a company produces only the quantity needed for delivery to dealers or customers. In purchasing, it means suppliers deliver subassemblies just in time to be assembled into finished goods. In delivery, it requires selecting a transportation mode that will deliver purchased components and materials in small-lot sizes at the loading dock of the manufacturing facilities just in time to support the manufacturing process.

### *JIT Compared with Traditional Manufacturing*

JIT manufacturing is a demand-pull, rather than the traditional "push" approach. The philosophy underlying JIT manufacturing is to produce a product when it is needed and only in the quantities demanded by customers. Demand pulls products through the manufacturing process. Each operation produces only what is necessary to satisfy the demand of the succeeding operation. No production takes place until a signal from a succeeding process indicates a need to produce. Parts and materials arrive just in time to be used in production. To illustrate the differences between pull and push systems of material control, the example of a fast food restaurant is used:

"At McDonald's, the customer orders a hamburger, the server gets one from the rack, the hamburger maker keeps an eye on the rack and makes new burgers when the number gets too low. The manager orders more ground beef when the maker's inventory gets too low. In effect, the customer's purchase triggers the pull of materials through the system..... In a push system, the caterer estimates how many steaks are likely to be ordered in any given week. He/she reckons how long it takes to broil a steak: he/she can figure out roughly how many meals are needed in a certain week..... "

*Reduced Inventories.* The primary goal of JIT is to reduce inventories to insignificant or zero levels. In traditional manufacturing, inventories result whenever production exceeds demand. Inventories are needed as a buffer when production does not meet expected demand.

*Manufacturing Cells and Multifunction Labor.* In traditional manufacturing, products are moved from one group of identical machines to another. Typically, machines with identical functions are located together in an area referred to as a department or process. Workers who specialize in the operation of a specific machine are located in each department. JIT replaces this traditional pattern with a pattern of manufacturing cells or work centers. Robots supplement people to do many routine operations.

Manufacturing cells contain machines that are grouped in families, usually in a semicircle. The machines are arranged so that they can be used to perform a variety of operations in sequence. Each cell is set up to produce a particular product or product family. Products move from one machine to another from start to finish. Workers are assigned to cells and are trained to operate all machines within the cell. Thus, labor in a JIT environment is multifunction labor, not specialized labor. Each manufacturing cell is basically a minifactory or a factory within a factory. A comparison of the physical layout of JIT with the traditional system is shown in Figure 23-2.

*Total Quality Control.* JIT goes with it a stronger emphasis on quality control. A defective part brings production to a grinding halt. Poor quality simply cannot be tolerated in a stockless manufacturing environment. In other words, JIT cannot be implemented without a commitment to *total quality control (TQC)*. TQC is essentially an endless quest for perfect quality. This approach to quality is opposed to the traditional belief, called *acceptable quality level (AQL)*. AQL allows defects to occur provided they are within a predetermined level.

*Decentralization of Services.* JIT requires easy and quick access to support services, which means that centralized service departments must be scaled down and their personnel assigned to work directly to support production. For example, with respect to raw materials, JIT calls for multiple stock points, each one near where the material will be used. There is no need for a central warehouse location.

*Suppliers as Outside Partners.* The most important aspects of the JIT purchasing concept focus on (1) new ways of dealing with suppliers, and (2) a clear-cut recognition of the appropriate purchasing role in developing corporate strategy. Suppliers should be viewed as "outside partners" who can contribute to the long-run welfare of the buying firm rather than as outside adversaries.

*Better Cost Management.* Cost management differs from cost accounting in that it refers to the management of cost, whether or not the cost has direct impact on inventory or the financial statements. The JIT philosophy simplifies the cost accounting procedure and helps managers manage and control their costs, which will be discussed in detail later in the chapter.

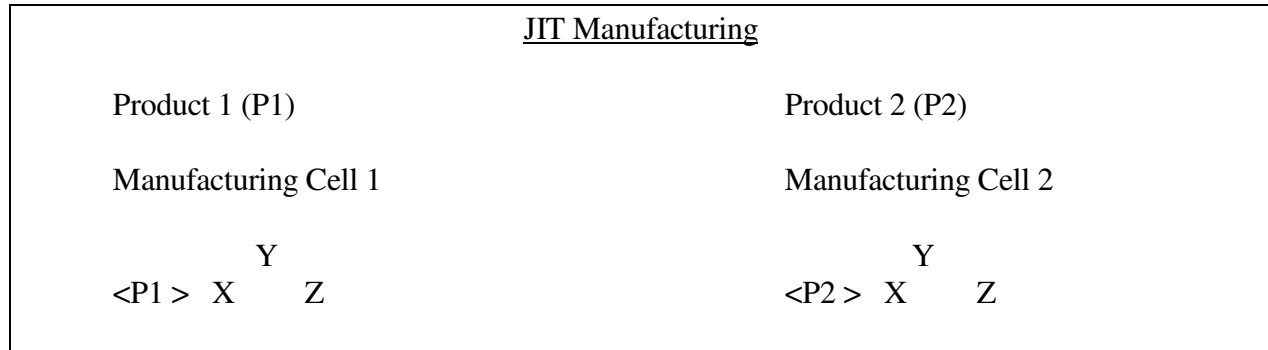
JIT recognizes that with simplification comes better management, better quality, better service, and better cost. Traditional cost accounting systems have a tendency to be very complex, with many transactions and reporting of data. Simplification of this process will transform a cost "accounting" system into a cost "management" system that can be used to support management's needs for better decisions about product design, pricing, marketing, and mix, and to encourage continual operating improvements.

The major differences between JIT manufacturing and traditional manufacturing are summarized in Figure 23-3.

**FIGURE 23-2**  
**PHYSICAL LAYOUT**  
**TRADITIONAL VS. JIT MANUFACTURING**

<u>Traditional Manufacturing</u>					
Department A		Department B		Department C	
<P1>	X      X	<P1>	Y      Y	<P1>	Z      Z
<P2>		<P2>		<P2>	

Each product passes through departments which specialize in one process. Departments process multiple products.



Notice that each product passes through its own cell. All machines necessary to process each product are placed within the cell. Each cell is dedicated to the production of one product or one subassembly.

Symbols:

X = Machine A

Y = Machine B

Z = Machine C

P1 = Product 1

P2 = Product 2

**FIGURE 23-3**

### COMPARISON OF JIT AND TRADITIONAL MANUFACTURING

<u>JIT</u>	<u>Traditional</u>
1. Pull system	1. Push system
2. Insignificant or zero inventories	2. Significant inventories
3. Manufacturing cells	3. "Process" structure
4. Multifunction labor	4. Specialized labor
5. Total quality control (TQC)	5. Acceptable quality level (AQL)
6. Decentralized services	6. Centralized services
7. Complex cost accounting	7. Simple cost accounting

#### *Benefits of JIT*

The potential benefits of JIT are numerous. First, JIT practice reduces inventory levels, which means lower investments in inventories. Since the system requires only the smallest quantity of materials needed immediately, it reduces the overall inventory level substantially. In many Japanese companies that use the JIT concept, inventory levels have been reduced to the point that makes the annual working capital turnover ratio much higher than that experienced by U.S.



counterparts. For instance, Toyota reported inventory turnover ratios of 41 to 63, while comparable U.S. companies reported inventory turnover ratios of 5 to 8.

Second, since purchasing under JIT requires a significantly shorter delivery lead time, lead time reliability is greatly improved. Reduced lead time and increased reliability also contribute to a significant reduction in the safety stock requirements.

Third, reduced lead times and set-up times increase scheduling flexibility. The cumulative lead time, which includes both purchasing and production lead times, is reduced. Thus, the firm schedule within the production planning horizon is reduced. This results in a longer "look-ahead" time that can be used to meet shifts in market demand. The smaller lot size production made possible by reduced set-up time, also adds flexibility.

Fourth, improved quality levels have been reported by many companies. When the order quantity is small, sources of quality problems are quickly identifiable, and can be corrected immediately. In many cases, employee quality consciousness also tends to improve, producing an improvement in quality at the production source.

Fifth, the costs of purchased materials may be reduced through more extensive value analysis and cooperative supplier development activities.

Sixth, other financial benefits reported include:

- (1) Lower investments in factory space for inventories and production.
- (2) Less obsolescence risk in inventories.
- (3) Reduction in scrap and rework.
- (4) Decline in paperwork.
- (5) Reduction in direct material costs through quantity purchases.

#### *Examples of JIT Implementation in the U.S.*

The following are some of the many implementation experiences of JIT in the U.S.:

- (1) The Oldsmobile division of General Motors (GM) has implemented a JIT project which permits immediate electronic communication between Oldsmobile and 70 of its principal suppliers who provide 700 to 800 parts representing around 85% of the parts needed for the new GM-20 cars.
- (2) PTC Components, a supplier to GM, has assisted GM in its use of stockless production by sending one truck a week to deliver timing chains to several GM's engine plants rather than accumulate a truckload to ship to each plant.
- (3) Ford introduced JIT production at its heavy-duty truck plant in Kentucky, which forced Firestone to switch the tire searching point from Mansfield to Dayton, Ohio. By combining

computerized ordering and halving inventory, Firestone has been able to reduce its own finished goods inventory. In addition, its production planning is no longer guesswork.

(4) Each day a truck from Harley-Davidson Motor Co. transports 160 motorcycle seats and assorted accessories 800 miles overnight to Harley's assembly plant in York, Pa., as a part of their advanced "Materials as Needed" (MAN) program--its version of JIT.

(5) The Hoover Company has used JIT techniques in its two plants at North Canton, Ohio, for a number of years for production scheduling and material flow control of 360 different models and 29,000 part numbers.

(6) Some plants of Du Pont used JIT and had an inventory savings of 30 cents on the dollar for the first year.

(7) The Vancouver division of Hewlett-Packard reported the following benefits two years after the adoption of the JIT method:

Work-in-process inventory dollars	down 82%
Space used	down 40%
Scrap/rework	down 30%
Production time:	
Impact printers	down 7 days to 2 days
Thermal printers	down 7 days to 3 hours
Labor efficiency	up 50%
Shipments	up 20%

*Note:* The implementation experiences listed above do not suggest a quick or across-the-board adoption of this concept. In many companies (particularly U.S. firms), the JIT purchasing concept simply may not be practical or feasible. In others, it may not be applicable to all product lines. However, many progressive companies currently are either investigating or implementing some form of the system.

## CHAPTER 24

### INTERNATIONAL MANAGEMENT

#### LEARNING OBJECTIVES:

After studying this chapter you will be able to:

1. Justify and discuss the need for international management.
2. Explain the roles of politics and cultures in international management.
3. Summarize the strategies and concepts associated with Japanese management.

#### The need for international management

Up to this point, management has been discussed in terms of American organizations operating in the United States. An important trend of the present and future is the increasing internationalization of business activity. International business activities range from the exporting of goods to other nations to the establishment of manufacturing operations in other nations. These activities present new challenges and practices to managers.

Globalization provides a competitive edge at all stages of developing, manufacturing, and marketing products, and domestic markets are saturated for many firms. The reality of today's borderless companies means consumers can no longer tell from which country they're buying (e.g., U.S.-based Ford owns Sweden's Volvo).

The process of globalization typically passes through four distinct stages:

- *Domestic.* Market potential is limited to the home country with all production and marketing facilities located at home.
- *International.* Exports increase and the company adopts a multidomestic approach with marketing in several countries individually.
- *Multinational.* Company has marketing and production facilities located in many countries, with more than one-third of its sales outside the home country.
- *Global (or stateless).* International development transcends any single home country.

The worldwide expansion of cable and satellite television has combined with movies and the Internet to create global kids. Mattel found that Barbies sold well worldwide. The need for global managers is intense; young managers should recognize the importance of global experience

While not all organizations are directly involved in international business activities, events that significantly impact on the management of American organizations are occurring daily in other nations. This has certainly been evidenced in recent years in the international oil market. Few American organizations have been left untouched by these events. Thus it is

increasingly important that all managers have an understanding of the nature of international business activity. When discussing international management, writers and even the ordinary citizens in the United States tend to make comparisons between management abroad and management at home.

To comprehend management in any foreign country, it is necessary to understand the particular environment created by conditions in that country. For present purposes, we can divide these conditions into three groups: (a) economic, (b) social, and (c) political.

An extremely important economic consideration is economic demand. For example, if a new plant is being considered, management must know whether sufficient purchasing power exists to absorb the output of the plant. Economic demand need not come from within the country's borders, but if it is to come from other countries, there must not be excessive trade restraints and strict control of exports. The availability of suitable labor is another highly important economic factor. There must be adequate education to create a labor force with the needed skills. Further, capital is needed, and unless the prospective manager commands sufficient wealth, it is necessary to secure financial help from others. In countries where borrowing is difficult and high interest rates are charged, the problems of the manager are multiplied. Then, too, the country's utility services, such as electric power, water, and transportation must be adequate. In highly overpopulated countries, an economically suitable site for a plant may not even be available.

Social considerations affecting management in a foreign country are equally significant. Primarily due to custom, a gifted person may be reluctant to participate in a business organization. His peers may look down on business as a career lacking in prestige. Business may even be regarded as immoral. In certain countries, some of the religious leaders regard as evil any action leading to the accumulation of wealth. In some countries, management, especially when applied to trade and commerce, is viewed mainly as a means of gaining entry to the most socially esteemed group. Managers are diligent in their managerial efforts mainly because they seek to improve social status and to gain favorable recognition. Also, in many foreign countries, the family is dominant and its objectives are given priority over those of the business. Being a member of a certain family is the main basis for respect, prestige, and status.

## **Politics and cultures**

Political and governmental factors in foreign countries are perhaps the most important of all conditions affecting management. A country's politics, operating through the government in power, influences taxes, import-export controls, financial restrictions, regulation regarding operations, and the repatriation of earnings—all of great importance to the manager. The power of taxation is always to be reckoned with by a manager. In some instances, a government may offer tax inducements, and these can influence management in important ways. For example, West Germany currently offers very attractive tax incentives related to capital investment. A government can refuse to issue import or export licenses for goods or services it considers nonessential or undesirable in its overall objectives. Furthermore, government can supply needed

capital to a manager or offer a government-sponsored agency by which managers can discuss and plan their affairs. A foreign government can lend encouragement or discouragement to organizations outside its direct jurisdiction by means of control over the earnings, by granting special favors and considerations, or, in contrast, by setting up repatriation requirements. The threat of nationalization can also affect managerial attitudes and the entrepreneurial spirit.

Some of these conditions may be referred to as cultural factors—particularly skills and abilities, the desire for products and services, and general customs and beliefs within a foreign country. In addition, the economic and political considerations of labor regulation, fiscal policy, and restrictions on trade establish a climate in which managers can achieve progress by designing and utilizing techniques to take these various factors into account. The fact that cultural differences exist has led some to conclude that the framework of management knowledge, as it exists in the United States, is applicable only in societies similar to that existing in the United States. People who hold that management cannot effectively be exported from one country to another point to the difficulties cultural differences create in interpersonal relationships, including those between managers and nonmanagers and between managers and vendors, customers, owners, government, and competitors. On the other hand, one can truthfully state that there are instances where managerial knowledge has been transferred from the United States to foreign countries, even in the face of differences in cultural and political factors.

Management knowledge is universal in that the structure of concepts and principles is valid regardless of physical location, even though the approach and techniques employed in applying the concepts and principles will vary in different cultures. In other words, the theory and concepts around which management knowledge and principles are organized represent fundamental truths that are useful in describing and predicting the results of certain variables in a given situation. How these management truths are applied—the techniques followed—may be identical or may differ in different cultures. Thus, the framework of management knowledge should be considered separate from its application to a given situation. What works successfully in one society may fail in another, or what is successful in one may succeed in others with very few, if any, changes. That is, the manager, designing a technique for a different culture, ascertains the extent of change necessary to meet the existing differences. Furthermore, the differences in society are not confined to countries. There can be different social variations within the same country.

A common mistake made in international management is the failure to integrate local employees into management positions. In these situations, almost all managers are imported, leaving only operative work for the locals. Over time, this approach tends to build resentment on the part of the local employees. It should be realized that competent managers and potential managerial talent exist in every country. The managers may have limited and narrow experience and need further developing, but the talent is usually there. Therefore, it is only good business to use and develop local managerial talent. Such actions usually help ensure the stability of the organization and also can have positive motivational results on the local employees.

### **Japanese management**

Because of Japan's economic successes, much attention has recently been given to their management system. In order to grasp an understanding of the Japanese system, four specific areas will be discussed: (1) paternalism, (2) participatory management, (3) labor mobility and training, and (4) education and prestige.

**Paternalism.** The relationship between employer and employees in Japan is highly paternalistic. This relationship has developed over many years. The Japanese worker does not look on the workplace as merely a place to earn a wage. Rather it is viewed as where one belongs. The work community is the primary role-reference group for employees. These paternalistic feelings are fostered by the concept of lifetime employment. Almost all of Japan's big corporations hire employees with the expectation of keeping them until retirement. This attitude carries with it an implicit guarantee against dismissal. Their reward system, which is based primarily on seniority, also reinforces the "family" atmosphere.

**Participatory management.** To a Japanese manager knowing how a subordinate feels about a given issue is vital, for without this knowledge, it is extremely difficult to make decisions that maintain the peace, harmony, and cooperation of the work group. Participatory management begins with an employee at a low organization level outlining an idea or suggested solution to a problem along with an explanation of how to implement the recommendation. The contribution is circulated among all affected by the suggestion and subsequently is circulated to the various superiors in succession. The purpose is to reach a consensus among not only the group members but also the managers affected by the decision. After considerable discussion, a decision is reached. The decision is considered a commitment by all parties involved in the discussions. Thus, the Japanese system encourages and expects the workers to actively participate in the decision-making process.

**Labor mobility and training.** Unlike most U.S. organizations, Japanese companies do not recruit employees for a particular skill or for a particular job opening. Rather they choose employees because of their personal background and personal characteristics. The basic idea is to hire good people and then train them for specific jobs in the organization. This approach to recruitment inevitably creates a mutual dependence and a specific relationship between the individual and the organization. Under this approach, the training received by the employees is very much company-specific in contrast to occupation or profession-specific. Thus, Japanese on-the-job training is dominated by company-specific activities. On-the-job training is facilitated by their seniority system. Senior workers are willing to impart their accumulated knowledge and experience to juniors without fear of jeopardizing their own positions.

**Education and prestige.** As mentioned in the previous section, the selection of employees is based largely on their backgrounds. Education is the most valued part of their background. Point of entry, cooperation, and the chance to move up are greatly dependent upon the amount and places of education.

## CHAPTER 25

### MANAGEMENT INFORMATION SYSTEMS AND DECISION MAKING MODELS

#### LEARNING OBJECTIVES:

After studying this chapter you will be able to:

1. Explain what a Management Information System (MIS) is.
2. Identify the type of output provided by an MIS.
3. Demonstrate the relationship between an MIS and its organizational levels.
4. Determine the levels of management and the kinds of decisions each level makes.
5. Illustrate a real life modeling system.
6. Describe the model base.

A management information system (MIS) comprises computer-based processing and/or manual procedures that provide useful, complete, and timely information. This information must support management decision-making in a rapidly changing business environment. The MIS system must supply managers with information quickly, accurately, and completely.

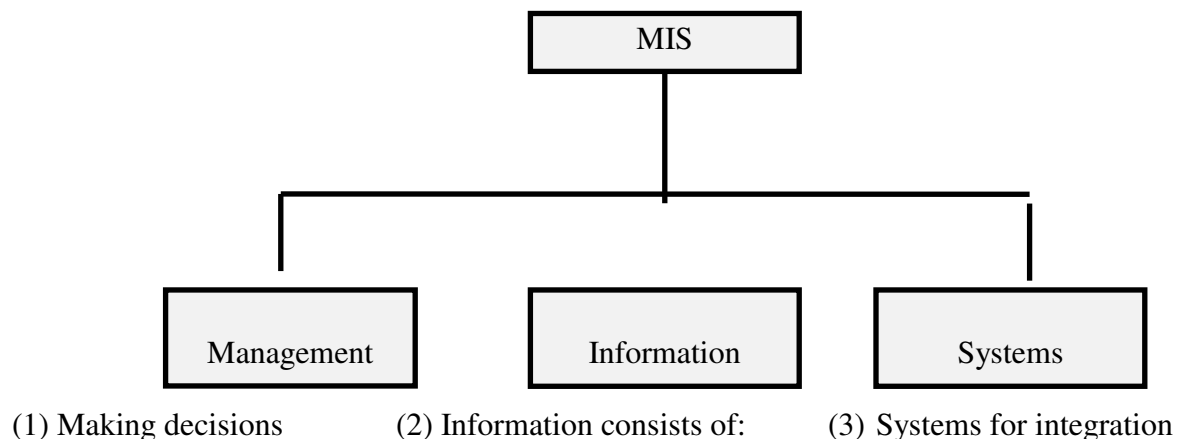
Information systems are not new; only computerization of them is new. Before computers, information system techniques existed to supply information for functional purposes.

#### What is the Management Information System (MIS)?

The scope and purpose of MIS is better understood if each part of the term is defined. See Figure 25-1.

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**FIGURE 25-1**  
**THE MEANING OF A MANAGEMENT INFORMATION SYSTEM (MIS)**



regarding:	orderly selected data	of all activities
Planning	used for making	through exchange of
Organizing	decisions	information
Coordinating		
Controlling		

---

## Management

Management has been defined in a variety of ways, but for our purposes it comprises the processes or activities that describe what managers do in the operation of their organization: plan, organize, coordinate, and control operations. They *plan* by setting strategies and goals and selecting the best course of action to achieve the plan. They *organize* the tasks necessary for the operational plan, set these tasks up into homogeneous groups, and assign authority delegation. They *control* the performance of the work by setting performance standards and avoiding deviations from standard.

Because *decision-making* is such a fundamental prerequisite to each of the foregoing processes, the job of an MIS becomes that of facilitating decisions necessary for planning, organizing, and controlling the work and the functions of the business.

In general, the work that management performs can be classified as (a) planning, (b) organization and coordination, (c) controlling, and (d) decision making.

*Planning.* The planning function of management involves the selection of long- and short-term objectives and the drawing up of strategic plans to achieve those objectives. For example, the vice president of marketing must consider numerous factors when planning short-term ad campaigns and promotional activities aimed at opening up new long-term markets.

*Organizing and coordinating.* In performing the organization and coordination function, management must decide how best to put together the firm's resources in order to carry out established plans. For example, top management must decide on the type and number of divisions and departments in the company and evaluate the effectiveness of the organizational structure. Furthermore, managers must identify the personnel needs of the company and select the personnel, as well as training staff.

*Controlling.* Controlling entails the implementation of a decision method and the use of feedback so that the firm's goals and specific strategic plans are optimally obtained. This includes supervising, guiding, and counseling employees necessary to keep them motivated and working productively toward the accomplishment of organization objectives.

*Decision making.* Decision making is the purposeful selection from a set of alternatives in light of a given objective. Each primary management function involves making decisions, and



information is required to make sound decisions. Decisions may be classified as short-term or long-term. Depending upon the level of management, decisions can be operational, tactical, or strategic.

## **Information**

Data must be distinguished from *information*, and this distinction is clear and important for our purposes. Data are facts and figures that are not currently being used in a decision process, and they usually take the form of historical records that are recorded and filed without immediate intent to retrieve for decision-making. An example would be one of the supporting documents, ledgers and so on, that comprise the source material for profit and loss statements. Such material would only be of historical interest to an external auditor.

Information consists of data that have been retrieved, processed, or otherwise used for informative or inference purposes, arguments, or as a basis for forecasting or decision-making. An example would be any one of the supporting documents mentioned above, but in this case the data could be used by an internal auditor, the management services department of an external auditor, or by internal management for profit planning and control, or for other decision-making purposes.

## **Systems**

A *system* can be described simply as a set of elements joined together for a common objective. A subsystem is part of a larger system. All systems are parts of larger systems. For our purposes the organization is the system and the parts (divisions, departments, functions, units, etc.) are the subsystems. While we have achieved a very high degree of automation and joining together of subsystems in scientific, mechanical, and factory manufacturing operations, we have barely scratched the surface of applying systems principles for organizational or business systems. The concept of synergism has not generally been applied to business organizations, particularly as it applies to the integration of the subsystems through information interchange. Marketing, production/operations, and finance are frequently on diverse paths and working at cross-purposes. The systems concept of MIS is therefore one of optimizing the output of the organization by connecting the operating subsystems through the medium of information exchange.

## **Classifying Management Information Systems In Terms Of The Type Of Output Provided**

Another way of classifying MISs depends on the format of the output desired by the users of the management information system. Here three distinctions are made:

1. MISs that generate *reports*: These reports can be income statements, balance sheets, cash flow reports, accounts receivable statements, inventory status reports, production efficiency reports, or any report on the status of a situation of interest to the decision maker. The reports can be historical or refer to the current status of the situation.

2. MISs that answer “what-if” kinds of questions asked by management: These information systems take the information stored in the data base and reply to questions asked by management. These questions are in the form of "what would happen if this or that happened?" The information system thus uses its stored information, its comparison and calculation capabilities, and a set of programs especially written for this situation to provide management with the consequences of an action they are considering.

It works like this. The vice-president for human resources of an airline wonders what pilot recruiting levels would be necessary if the company changed its retirement age from 65 to 62 at the same time that the Civil Aeronautics Board (CAB) reduced the maximum number of hours a pilot can fly monthly from 80 to 75.

The vice-president uses a "what-if" information system approach to answer her question. The computer indicates that monthly recruiting levels would have to be increased from 110 to 185 pilots to meet these two conditions. She realizes that is not feasible and now "asks" the system the "what-if" question with the retirement age changed to 63. The reply is now 142 pilots a month recruited. She feels this is an attainable recruiting target. Some "what-if" systems print out entire financial statements reflecting the financial consequences of actions that are being contemplated.

Figure 25-2 depicts a “what-if” scheme. "What-if" management information systems combine models(to be discussed later), software enabling the decision maker to make various inputs to those models and receive the outputs, and report-generating capability. These are generally run on a real-time system which can be online and which can also run on a timesharing basis. In Figure 2 we have illustrated a "what-if" MIS.

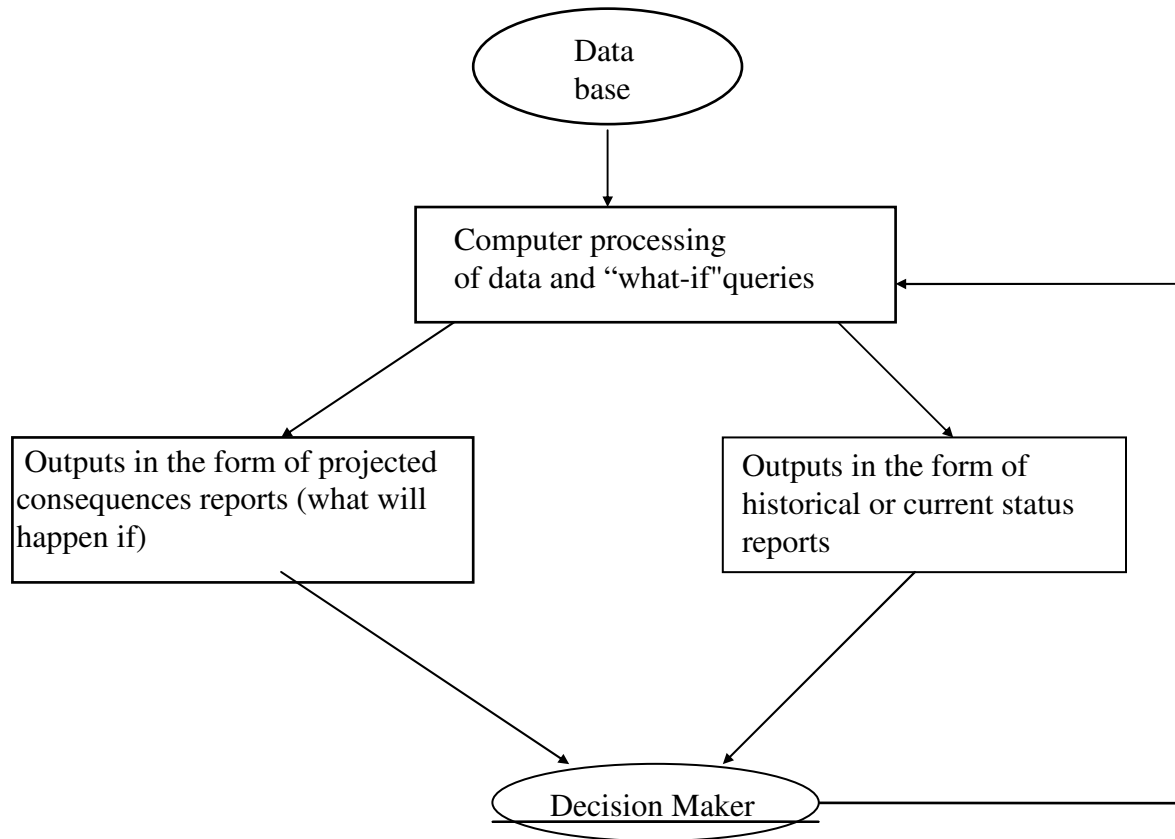
3. MISs which support decision making (decision support systems): These advanced systems attempt to integrate the decision maker, the data base, and the models being used. A decision support system (DSS) requires a very comprehensive data base together with the ability to manage that data base, to provide outputs to the decision maker, and to update whatever permanent models are stored in the system. It requires extensive hardware and software. Two features distinguish DSS from other information systems: (1) they actually make a recommended decision instead of merely supplying additional information to the decision maker, and (2) they "build in" the decision maker as an integral part of the system (the software accommodates the person as part of the decision process). Figure 25-3 illustrates a DSS management information system.

### **An MIS and Organizational Levels**

An MIS should produce useful, accurate, and timely information to management on three levels: low-level (operational), middle (tactical), and top (strategic). Lower management make day-to-day operational decisions that affect a relatively narrow time frame and that involve details. These decisions are structured. Middle management are involved on more tactical

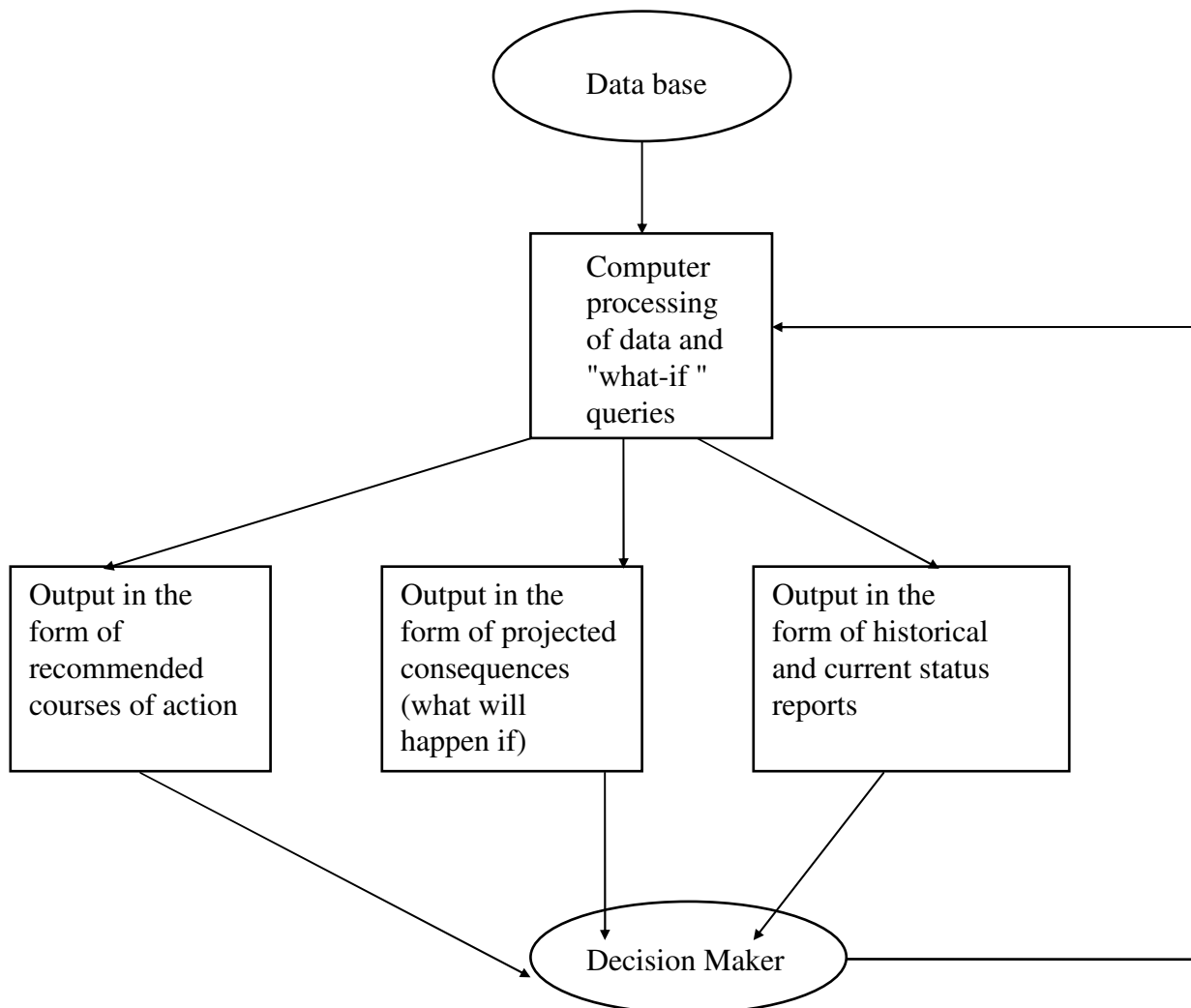
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**FIGURE 25-2**  
**“WHAT-IF” MIS**



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**FIGURE 25-3**  
**DECISION MAKER'S "WHAT-IF" QUESTIONS**



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decisions that cover a broader range of time and involve more experience. Middle managers use summary reports, exception reports, periodic reports, on-demand reports, and event-initiated reports to make semistructured decisions. Top management deals with decisions that are strategic and long-term in nature.

The primary objective of the MIS is to satisfy the needs at the various levels. Generally the information needs to be (1) more summarized and relevant to the specific decisions that need to be made than the information normally produced in an organization and (2) available soon enough to be of value in the decision making process. The information flows up and down through the three levels of management and is made available in various types of reports.

## Levels of Management: What Kinds of Decisions Are Made?

Each level of management can be differentiated by the types of decisions made, the time frame considered in the decisions, and the types of report information needed to make decisions. (See Table 25-1).

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**TABLE 25-1**  
**A COMPARISON OF THE MISs**  
**AT THE OPERATIONAL, TACTICAL, AND STRATEGIC LEVELS**

Characteristic	Operational	Tactical	Strategic
Frequency	Regular, repetitive	Mostly regular	Often ad hoc (as needed)
Dependability of results contain	Expected results	Some surprises may occur	Results often surprises
Time period covered	Past	Comparative	Future
Level of data	Very detailed	Summaries of data	Summaries of data
Source of data external	Internal	Internal and external	Internal and
Nature of data unstructured	Highly structured	Some unstructured data	Highly (semistructured)
Accuracy data	Highly accurate data	Some subjective data	Highly subjective
Typical user	First-line supervisors	Middle managers	Top management
Level of decision	Task-oriented	Control and resource allocation oriented	Goal-oriented

---

### *Lower Management*

The largest level of management, lower (operational) management, deals mostly with decisions that cover a relatively narrow time frame. Lower management, also called supervisory

management, actualizes the plans of middle management and controls daily operations—the day-to-day activities that keep the organization humming. Examples of a lower-level manager are the warehouse manager in charge of inventory restocking and the materials manager responsible for seeing that all necessary materials are on hand in manufacturing to meet production needs.

Most decisions at this level require easily defined information about current status and activities within the basic business functions—for example, the information needed to decide whether to restock inventory. This information is generally given in detail reports that contain specific information about routine activities. These reports are structured, so their form can usually be predetermined. Daily business operations data is readily available, and its processing can be easily computerized. Managers at this level typically make structured decisions. A structured decision is a predictable decision that can be made by following a well-defined set of predetermined, routine procedures. For example, a clothing store floor manager's decision to accept your credit card to pay for some new clothes is a structured decision based on several well-defined criteria:

1. Does the customer have satisfactory identification?
2. Is the card current or expired?
3. Is the card number 011 on the store's list of stolen or lost cards?
4. Is the amount of purchase under the cardholder's credit limit?

### *Middle Management*

The middle level of management deals with decisions that cover a somewhat broader range of time and involve more experience. Some common titles of middle managers are plant manager, division manager, sales manager, branch manager, and director of personnel.

The information that middle managers need involves review, summarization, and analysis of historical data to help plan and control operations and implement policy that has been formulated by upper management. This information is usually given to middle managers in two forms: (1) *summary reports*, which show totals and trends—for example, total sales by office, by product, by salesperson, and total overall sales—and (2) *exception reports*, which show out-of-the-ordinary data—for example, inventory reports that list only those items that number fewer than 10 in stock. These reports may be regularly scheduled (periodic reports), requested on a case-by-case basis (on-demand reports), or generated only when certain conditions exist (event-initiated reports).

Periodic reports are produced at predetermined times—daily, weekly, monthly, quarterly, or annually. These reports commonly include payroll reports, inventory status reports, sales reports, income statements, and balance sheets. On-demand reports are usually requested by a manager when information is needed for a particular problem. For example, if a customer wants to establish a large charge account, a manager might request a special report on the customer's payment and order history. Event-initiated reports usually clear with a change in conditions that

requires immediate attention, such as an out-of-stock report or a report on an equipment breakdown.

Managers at the middle level of management are often referred to as tactical decision makers who generally deal with semistructured decisions. A semistructured decision is a decision that includes some structure procedures and some procedures that do not follow a predetermined set of procedures. In most cases, a semistructured decision is complex, requiring detailed analysis and extensive computations. Examples of semistructured decisions include deciding how many units of a specific product should be kept in inventory, whether or not to purchase a larger computer system, from what source to purchase personal computers, and whether to purchase a multiuser minicomputer system. At least some of the information requirements at this level can be met through computer-based data processing.

### *Top Management*

The top level of management deals with decisions that are the broadest in scope and cover the widest time frame. Typical titles of managers at this level are chief executive officer (CEO), chief operating officer (COO), chief financial officer (CFO), treasurer, controller, chief information officer (CIO), executive vice president, and senior partner. Top managers include only a few powerful people which are in charge of the four basic functions of a business—marketing, accounting and finance, production, and research and development. Decisions made at this level are unpredictable, long-range, and related to the future, not just past and/or current activities. Therefore, they demand the most experience and judgment.

A company's MIS must be able to supply information to top management as needed in periodic reports, event-initiated reports, and on-demand reports. The information must show how all the company's operations and departments are related to and affected by one another. The major decisions made at this level tend to be directed toward (1) strategic planning—for example, how growth should be financed and which new markets should be tackled first; (2) allocation of resources, such as deciding whether to build or lease office space and whether to spend more money on advertising or the hiring of new staff members; and (3) policy formulation, such as determining the company's policy on hiring minorities and providing employee incentives. Managers at this level are often called strategic decision makers. Examples of unstructured decisions include deciding five-year goals for the company, evaluating future financial resources, and deciding how to react to the actions of competitors.

At the higher levels of management, much of the data required to make decisions comes from outside the organization (for example, financial information about other competitors). Table 25-2 shows the decision areas that the three levels of management would deal with in (a) a consumer product business and (b) a bank.

---

**TABLE 25-2**

### THREE LEVELS OF MANAGERIAL LEVELS AND INFORMATION NEEDS

#### *(a) Consumer product business*

Strategic Planning	Competitive Industry statistics
Tactical	Sales analysis by customer Reorder analysis of new products Sales analysis by product line Production planning
Operational	Bill of materials Manufacturing specifications Product specifications Order processing On-line order inquiry Finished goods inventory Accounts receivable General ledger

#### *(b) Bank*

Strategic Planning	Market forecast New product development Financial forecast
Tactical	Branch profitability Product profitability
Operational	Loan billing Accounting systems Policy issuance and maintenance

---

### Modeling A Real Life System

Many MISs are model-based. The real world is complex, dynamic, and expensive to deal with. For this reason, we use models instead of real life systems. A model is an abstraction of a real life system that is used to simulate reality. Especially in a computing environment we live in, managers and decision makers find use of models easy and less expensive to understand what is happening and to make better decisions.



There are many different types of models. They are:

1. Narrative
2. Physical
3. Graphical
4. Mathematical

#### *Narrative Models*

A narrative model is either written or oral. The narrative represents a topic or subject. In an organization, reports, documents, and conversations concerning a system are all important narratives. Examples include the following: a salesperson verbally describing a product's competition to a sales manager, and a written report describing the function of a new piece of manufacturing equipment.

#### *Physical Models*

The fashion model is an example of physical models, as are dolls and model airplanes. Many physical models are computer designed or constructed. An aerospace engineer may develop a physical model of a shuttle to gain important information about how a large-scale shuttle might perform in space. A marketing department may develop a prototype of a new product.

#### *Graphical Models*

A graphical model is a pictorial representation of reality. Lines, charts, figures, diagrams, illustrations, and pictures are all types of graphical models. These are used often in developing computer programs. *Flowcharts* show how computer programs are to be developed. A graph that shows budget and financial projections and a break-even chart are good examples of graphic models. The break-even chart depicts the point at which sales revenues and costs are equal, as shown in Figure 25-4.

#### *Mathematical Models*

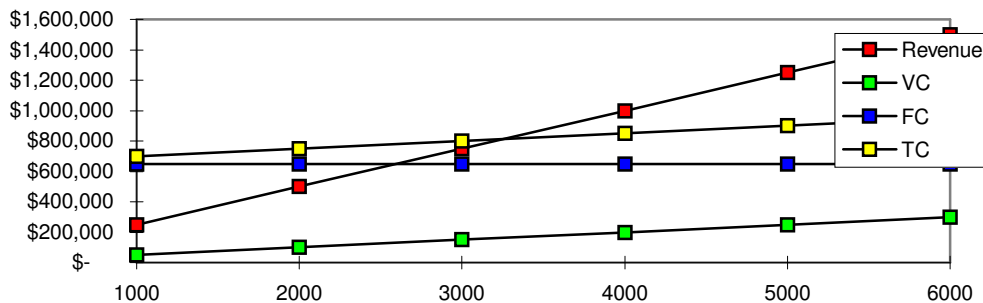
A mathematical model is a quantitative representation of reality. These models are most popular for decision making in all areas of business. Any mathematical formula or equation is a model that can be used for simulation or “what-if” analysis purposes. Once properly constructed, management can experiment with them just as physical scientists do a controlled experiment in their laboratory. In a sense, mathematical models are the managers’ laboratory. For example, the break-even formula used to compute the break-even point in Figure 4 is simply the following:

$$X_{be} = \frac{FC}{(P - V)}$$

where  $X_{be}$  = break-even point,  $P$  = Price or average revenue per unit,  $V$  = Unit variable cost, and  $FC$  = Total fixed costs.

---

**FIGURE 25-4**  
**BREAK-EVEN CHART**



### The Model Base

The purpose of the model base in a MIS is to give decision makers access to a variety of models and to assist them in the decision making process. The model base can include *model management software (MMS)* that coordinates the use of models in a MIS. Depending on the needs of the decision maker, one or more of these models can be used.

### Financial Models

Financial models provide cashflow, internal rate of return, and other investment analysis. Spreadsheet programs such as Excel are often used for this purpose. In addition, more sophisticated financial planning and modeling programs such as *Interactive Financial Planning System (IFPS)* can be employed. Some organizations develop customized financial models to handle the unique situations and problems faced by the organization. However, as spreadsheet packages continue to increase in power, the need for sophisticated financial modeling packages may decrease.

### Statistical Models

Statistical models can provide summary statistics, trend projections, hypothesis testing, and more. Many software packages, including *Statistical Packages for Social Scientists (SPSS)*, *Statistical Analysis System (SAS)*, and *MINITAB*, provide outstanding statistical analysis for organizations of all sizes. These statistical programs can calculate means, variances, correlation coefficients, regression analysis, do hypotheses testing, etc. Many packages also have graphics output capability.

The following illustrates the use of SPSS for Windows for regression analysis and the sample output.

### EXAMPLE 1

Cypress Consumer Products Corporation wishes to develop a forecasting model for its dryer sales by using multiple regression analysis. The marketing department prepared the following sample data.

Month	Sales of <u>Washers</u> (x <sub>1</sub> )	Disposable <u>Income</u> (x <sub>2</sub> )	<u>Savings</u> (x <sub>3</sub> )	Sales of <u>Dryers</u> (y)
January	\$45,000	\$16,000	\$71,000	\$29,000
February	42,000	14,000	70,000	25,000
March	44,000	15,000	72,000	27,000
April	45,000	13,000	71,000	25,000
May	43,000	13,000	75,000	26,000
June	46,000	14,000	74,000	28,000
July	44,000	16,000	76,000	30,000
August	45,000	16,000	69,000	28,000
September	44,000	15,000	74,000	28,000
October	43,000	15,000	73,000	27,000

SPSS for Windows was employed to develop the regression model. Figure 25-5 presents the regression output results using three explanatory variables.

---

**FIGURE 25-5**  
**01 Jan 01 SPSS for MS WINDOWS**

\* \* \* \* MULTIPLE REGRESSION \* \* \* \*

Listwise Deletion of Missing Data

Equation Number 1    Dependent Variable.. SALESDRY

Block Number 1. Method: Enter    SALESWAS INCOME    SAVINGS

Variable(s) Entered on Step Number

---

1..	SAVINGS	
2..	SALESWAS	
3..	INCOME	
Multiple R		.99167
R Square		.98340
Adjusted R Square		.97511
Standard Error		.28613

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	3	29.10878	9.70293
Residual	6	.49122	.08187

F = 118.51727      Signif F = .0000

----- Variables in the Equation -----

Variable	B	SE B	Beta	Tolerance	VIF	T
SALESWAS	.596972	.081124	.394097	.964339	1.037	7.359
INCOME	1.176838	.084074	.752425	.957217	1.045	13.998
SAVINGS	.405109	.042234	.507753	.987080	1.013	9.592
(Constant)	-45.796348	4.877651				-9.389

Durbin-Watson Test = 2.09377

### *Optimization Models*

Optimization models refer to techniques for establishing complex sets of mathematical equations and inequalities that represent objectives and constraints. These models are “prescriptive” in that they try to provide the best possible solution to the problem at hand. They include mathematical programming such as linear programming (LP) and goal programming (GP) models.

Linear programming (LP) is a mathematical technique designed to determine an optimal decision (or an optimal plan) chosen from a large number of possible decisions. The optimal decision is the one that meets the specified objective of the company, subject to various restrictions or constraints. It concerns itself with the problem of allocating scarce resources among competing activities in an optimal manner. The optimal decision yields the highest profit, contribution margin (CM), or revenue, or the lowest cost. A linear programming model consists of two important ingredients:

1. *Objective function.* The company must define the specific objective to be achieved.
2. *Constraints.* Constraints are in the form of restrictions on availability of resources or meeting minimum requirements. As the name linear programming indicates, both the objective function and constraints must be in linear form.

A firm wishes to find an optimal product mix. The optimal mix would be the one that maximizes its total CM within the allowed budget and production capacity. Or the firm may want to determine a least cost combination of input materials while meeting production requirements, employing production capacities, and using available employees.

Applications of LP are numerous. They include:

1. Selecting least-cost mix of ingredients for manufactured products
2. Developing an optimal budget
3. Determining an optimal investment portfolio (or asset allocation)
4. Allocating an advertising budget to a variety of media
5. Scheduling jobs to machines
6. Determining a least-cost shipping pattern
7. Scheduling flights
8. Gasoline blending
9. Optimal manpower allocation
10. Selecting the best warehouse location to minimize shipping costs.

### *Formulation Of LP*

To formulate an LP problem, certain steps are followed. They are:

1. Define what is called *decision variables* that you are trying to solve for.
2. Express the objective function and constraints in terms of these decision variables. All the expressions must be in *linear* form.

In the following example, we will use this technique to find the optimal product mix.

### EXAMPLE 2

The JKS Furniture Manufacturing Company produces two products: desk and table. Both products require time in two processing departments, Assembly Department and Finishing Department. Data on the two products are as follows:

<i>Processing</i>	<i>Products Available</i>		<i>Hours</i>
	<i>Desk</i>	<i>Table</i>	
Assembly	2	4	100 hours
Finishing	3	2	90
Contribution Margin			
Per Unit	\$25	\$40	

The company wants to find the most profitable mix of these two products.

*Step 1:* Define the decision variables as follows:

A = Number of units of desk to be produced

B = Number of units of table to be produced

*Step 2:* The objective function to maximize total contribution margin (CM) is expressed as:

$$\text{Total CM} = 25A + 40B$$

Then, formulate the constraints as inequalities:

$$2A + 4B \leq 100 \text{ (Assembly constraint)}$$

$$3A + 2B \leq 90 \text{ (Finishing constraint)}$$

In addition, implicit in any LP formulation are the constraints that restrict A and B to be nonnegative, i.e.,

$$A, B \geq 0$$

Our LP model is:

$$\text{Maximize: Total CM} = 25A + 40B$$

$$\text{Subject to: } 2A + 4B \leq 100$$

$$3A + 2B \leq 90$$

$$A, B \geq 0$$

#### *Use Of Computer LP Software*

We can use a computer LP software package such as *LINDO (Linear Interactive and Discrete Optimization)* and *What's Best!*, to quickly solve an LP problem.

Figure 25-6 shows a LINDO output by an LP program for our LP model set up in Example 2.

*Note:* The printout shows the following optimal solution:

$$A = 20 \text{ units}$$

$$B = 15 \text{ units}$$

$$\text{CM} = \$1,100$$

Shadow prices are:

$$\text{Assembly capacity} = \$8.75$$

$$\text{Finishing capacity} = \$2.50$$

---

**FIGURE 25-6**  
**COMPUTER PRINTOUT FOR LP**

```
**  INFORMATION ENTERED  **  
  
NUMBER OF CONSTRAINTS      2  
NUMBER OF VARIABLES        2  
NUMBER OF <=CONSTRAINTS    2  
NUMBER OF =CONSTRAINTS     0
```

NUMBER OF  $\geq$  CONSTRAINTS                      0

MAXIMIZATION PROBLEM

$$25A + 40B$$

SUBJECT TO

$$2A + 4B \leq 100$$

$$3A + 2B \leq 90$$

\*\* RESULTS \*\*

VARIABLE	VALUE	ORIGINAL COEFF.	COEFF. SENS.
----------	-------	--------------------	-----------------

A	20	25	0
B	15	40	0

Solution:

A=20

B=15

CONSTRAINT NUMBER	ORIGINAL RHS	SLACK OR SURPLUS	SHADOW PRICE
----------------------	-----------------	---------------------	-----------------

1	100	0	8.75<--(shadow price of the assembly capacity)
---	-----	---	--

OBJECTIVE FUNCTION VALUE : 1100 = CM

SENSITIVITY ANALYSIS

OBJECTIVE FUNCTION COEFFICIENTS

VARIABLE	LOWER LIMIT	ORIGINAL COEFFICIENT	UPPER LIMIT
----------	----------------	-------------------------	----------------

A	20	25	60
B	16.67	40	50

RIGHT HAND SIDE

CONSTRAINT NUMBER	LOWER LIMIT	ORIGINAL VALUE	UPPER LIMIT
----------------------	----------------	-------------------	----------------

1	60	100	180
2	50	90	150

---

### ***Decision Analysis Models***

Decisions are made under certainty or under uncertainty. Decision making under certainty means that for each decision there is only one event and therefore only one outcome for each action. Decision making under uncertainty, which is more common in reality, involves several events for each action with its probability of occurrence. When decisions are made in a world of uncertainty, it is often helpful to make the computations of: (1) *expected value*, (2) *standard deviation*, and (3) *coefficient of variation*.

### ***Standard Deviation***

The standard deviation measures the tendency of data to be spread out. Cost analysts and managerial accountants can make important inferences from past data with this measure. The standard deviation, denoted with the Greek letter  $\sigma$ , read as *sigma*, is defined as follows:

$$\sigma = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}}$$

where  $\bar{x}$  is the mean (arithmetic average).

The standard deviation can be used to measure the variation of such items as the expected contribution margin (CM) or expected variable manufacturing costs. It can also be used to assess the risk associated with investment projects.

### **EXAMPLE 3**

One and one-half years of quarterly returns are listed below for United Motors stock.

Time period	x	$(x - \bar{x})$	$(x - \bar{x})^2$
1	10%	0	0
2	15	5	25
3	20	10	100
4	5	-5	25
5	-10	-20	400
6	<u>20</u>	10	<u>100</u>
	<u>60</u>		<u>650</u>

The mean return and standard deviation over this period are computed as follows:

$$\bar{x} = 60/6 = 10\%$$



$$\sigma = \sqrt{\frac{\sum (x - \bar{x})^2}{n-1}} = \sqrt{\frac{650}{6-1}} = \sqrt{130} = 11.40\%$$

The United Motors stock has returned on the average 10 percent over the last six quarters and the variability about its average return was 11.40%. The high standard deviation (11.40%) relative to the average return of 10% indicates that the stock is very risky.

Although statistics such as expected value and standard deviation are essential for choosing the best course of action under uncertainty, the decision problem can best be approached using what is called decision theory. Decision theory is a systematic approach to making decisions especially under uncertainty. Decision theory utilizes an organized approach such as a *decision matrix* (or *payoff table*).

### **Decision Matrix**

A decision matrix is characterized by:

- (1) the *row* representing a set of alternative courses of action available to the decision maker;
- (2) the *column* representing the state of nature or conditions that are likely to occur and the decision maker has no control over; and
- (3) the *entries* in the body of the table representing the outcome of the decision, known as payoffs which may be in the form of costs, revenues, profits or cash flows. By computing expected value of each action, we will be able to pick the best one.

### **EXAMPLE 4**

Assume the following probability distribution of daily demand for a product:

<u>Daily demand</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>
Probability	.2	.3	.3	.2

Also assume that unit cost =\$3, selling price=\$5 (i.e., profit on sold unit = \$2), and salvage value on unsold units =\$2 (i.e., loss on unsold unit =\$1). We can stock either 0, 1, 2, or 3 units. The question is:

How many units should be stocked each day? Assume that units from one day cannot be sold the next day. Then the payoff table can be constructed as follows:

---

### State of Nature

	<u>Demand</u>	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>Expected value</u>
Stock (probability)	(.2)	(.3)	(.3)	(.2)		
0	\$0	0	0	0		\$0

Actions 1	-1	2	2	2	1.40
2	-2	1*	4	4	1.90**
3	-3	0	3	6	1.50

\*Profit for (stock 2, demand 1) equals (no. of units sold)(profit per unit) - (no. of units unsold)(loss per unit) = (1)(\$5 - 3) - (1)(\$3 - 2) = \$1

\*\*Expected value for (stock 2) is:  $-2(.2) + 1(.3) + 4(.3) + 4(.2) = \$1.90$

The optimal stock action is the one with the highest expected monetary value i.e., stock 2 units.

### ***Decision Tree***

Decision tree is another approach used in discussions of decision making under uncertainty. It is a pictorial representation of a decision situation.

As in the case of the *decision matrix* approach discussed, it shows decision alternatives, states of nature, probabilities attached to the state of nature, and conditional benefits and losses. The decision tree approach is most useful in a sequential decision situation.

#### **EXAMPLE 5**

Assume XYZ Corporation wishes to introduce one of two products to the market this year. The probabilities and present values (PV) of projected cash inflows are given below:

<i>Product</i>	<i>Initial investment</i>	<i>PV of cash inflows</i>	<i>Probabilities</i>
A	\$225,000		1.00
		\$450,000	0.40
		200,000	0.50
		-100,000	0.10
B	80,000		1.00
		320,000	0.20
		100,000	0.60
		-150,000	0.20

A decision tree analyzing the two products is given in Figure 25-7.

**FIGURE 25-7**

**DECISION TREE**

		Initial Investment (1)	Probability (2)	PV of Cash Inflows (3)	PV of Cash Inflows (2) X (3) = (4)
Choice A or B	Product A	\$225,000	0.40	\$450,000	\$180,000
			0.50	\$200,000	100,000
			0.10	-\$100,000	-10,000
		Expected PV of Cash Inflows			<u>\$270,000</u>
	Product B	\$80,000	0.20	\$320,000	\$64,000
			0.60	\$100,000	60,000
			0.20	-\$150,000	-30,000
		Expected PV of Cash Inflows			<u>\$ 94,000</u>

### *Graphical Models*

Graphical modeling programs are software packages that assist decision makers in designing, developing, and using graphic displays of data and information. Numerous personal computer programs that can perform this type of analysis are available on the market. In addition, sophisticated graphic design and analysis such as computer-assisted design (CAD) is widely available.

### *Project Planning and Management Models*

Project planning and management models are used to navigate and coordinate large projects, and to discover critical paths that could delay or jeopardize an entire project if they are not completed in a timely and cost-effective fashion. Some of these programs can determine the best way to speed up a project by effectively using additional resources, including cash, labor, and equipment. Project management allows decision makers to keep tight control over projects of all sizes and types.

Program Evaluation and Review Technique (PERT) is a useful management tool for planning, scheduling, costing, coordinating, and controlling complex projects such as

- Formulation of a master budget
- Construction of buildings
- Installation of computers
- Scheduling the closing of books
- Assembly of a machine
- Research and development activities

Questions to be answered by PERT include:

- When will the project be finished?
- What is the probability that the project will be completed by any given time?

### *Simulation Models*

The primary use of a simulation model is to respond to "what if . . . ?" questions. These descriptive models can produce large amounts of detailed output because they work by mimicking many parts of the real-world system. One major weakness is that no automatic searching or optimizing is done by the model. (Any such features must be built on top of the simulation model and must be used as a submodel.) In such cases, the simulation may have to be performed many, many times while a search for the best decision parameters is under way. This can be quite expensive if the simulation is complex.

Two major issues in simulation modeling are how long a simulation run must proceed to achieve *steady state* (typical behavior) and how many different runs must be performed to achieve statistical significance. Inside most simulation models is a pseudo random number generator. This is a mathematical subroutine that produces numbers that appear to be random.

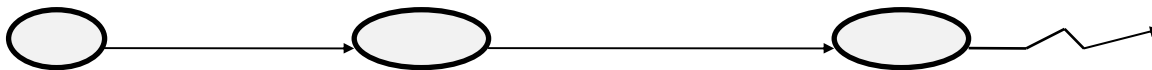
These random numbers are manipulated further to represent parts of the model that are not deterministic. Examples might include the arrival of customers at a ticket counter or the time of failure of an electronic circuit component. These random number generators can be "seeded" with special input parameters to make them produce different streams of random values. Repeating runs with different seed values provides a set of outputs that has a statistical distribution to be analyzed.

Many commercial software packages are available that can be used to build simulation models. Some of these are general-purpose simulation languages that have general-but-powerful features, such as waiting lines and resource pools that ease the modeling task. At the other extreme are tailored simulation models (such as oil refinery models) that are already built but afford the user the ability to specify input parameters to describe the precise configuration under study. In between these extremes are simulation languages that are suited for a large class of models, such as networks, that are a formalism in which many problems can be represented.

#### EXAMPLE 6

During lunch hour, customers arrive at a fast-food restaurant at a rate of three per minute. They require 1.5 minutes to place an order and pay the bill before going to pick up the food. How many cash register stations are needed to ensure that the number of customers waiting in line does not exceed six and that this waiting time does not occur more than 30 percent of the time during the lunch hour rush?

A simulation language such as the SLAM II can be used to simulate the sequence of the operation in this problem. The language consists of symbols that can be composed on a computer terminal screen into a diagram like the one shown. The first circle represents customer arrivals. The second circle represents the queue, or waiting line. The last circle represents departures from the system.



A random normal probability distribution was chosen to model the customer arrivals. The mean, or average, time between arrivals is set at 20 seconds, and the standard deviation is set to 5 seconds. The simulation model was run for 3,600 seconds for each experiment. The number of servers was changed between runs. The service time was represented by an exponential distribution with a mean of 90 seconds.

The simulation software generates random numbers using mathematical formulas and then computes when customers arrive, how long they require service, and so forth. A clock is simulated to keep track of what should happen next. These performance statistics are collected and reported.

Statistics describing the queue are produced automatically by the simulation software package. Table 25-3 shows that five servers are needed to ensure that the queue will be no longer than six persons for 70 percent of the time. A thorough analysis would involve making more runs to confirm that the above statistics still hold true when different random numbers are used and longer periods of simulation are tried.

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**TABLE 25-3**  
**PERCENT OF TIME THAT QUEUE LENGTH**  
**IS NO MORE THAN**

Number of 0 Servers	1	2	3	4	5	6	7
4	14	20	24	27	27	28	31
5	46	55	60	63	64	68	73

Table 25-3 would serve as a tool for establishing optimal staffing levels for a fast-food restaurant.

## GLOSSARY

- Accountability*—the holding of a subordinate directly responsible for results, good or bad.
- Administration*—commonly used as a synonym for management, especially at the higher levels.
- Appraising*—a formal system of evaluating a manager's performance periodically and discussing the evaluation with him or her.
- Art*—the know-how to accomplish a desired result.
- Authority*—the right to command and expend resources.
- Automation*—processing of work in which the transfer is made from one operation to another without human intervention.
- Behavior sciences*—sciences dealing with human behavior, especially psychology, sociology, and anthropology.
- Board of directors*—a group elected by stockholders in order to supply general guidance for a corporation.
- Break-even point*—the amount of sales by an enterprise that will produce just enough revenue to cover all costs but with no profit.
- Budget*—a plan in which data, arranged logically, represent expectancies for a stated period.
- Cash flow*—the amount of cash flowing in and out of a business in a given period.
- Civil Rights Act of 1964*—forbids in employment discrimination on account of sex, race, color, religion, or national origin.
- Cohesiveness*—the degree of attraction that each member has for the group, or the stick-togetherness of the group.
- Command*—the giving of orders.
- Communication*—a means by which management is facilitated; it is not an independent activity but an essential part of almost everything a manager does.
- Conformity*—the degree to which the members of a group accept and abide by the norms of the group.
- Controlling*—the evaluating of performance and, if necessary, correcting what is being done to assure attainment of results according to plan.
- Coordinating*—synchronizing individual efforts with respect to their amount, time, and direction in order to obtain unified action toward a goal.
- Decision making*—selecting an alternative from two or more alternatives to determine an opinion or course of action.
- Decision tree*—a diagrammatic chart showing the estimated outcomes of each decision in measurable terms, usually dollars.
- Delegation of authority*—the conferring of authority from one manager to another or from one organization unit to another in order to accomplish specific assignments.
- Directing*—the activity of integrating the efforts of members of a group so that by accomplishing their assigned tasks they will meet individual and group objectives.
- Dysfunction*—condition bringing use of nonformal behavior to meet a situation. Exemplified by structure, work process specifications, and differentiation of decision making by different employees. Brings about modified behavior existing within formal organization.
- Equal Employment Opportunity Commission (EEOC)*—a federal government agency which receives and initiates charges alleging violations of Title VII of Civil Rights Act of 1964.

*Equity*—commonly used with financing with reference to the sale of stock or its ownership.

*Exceptional case*—in controlling, the case where comparison between respective expectancy and performance shows a deviation much greater than what can be considered normal.

*Factory cost*—expenses incurred in manufacturing a product. Includes direct labor, direct material, and factory overhead costs.

*Feedback*—the arrangement whereby the results of communication may be easily ascertained by those who issued it. Also used in reference to a machine sensing and correcting its own mistakes.

*Fixed cost*—cost that tends to remain constant as total sales increase or decrease within reasonable limits.

*Forecasting*—the attempt to predict, through study and analysis of currently available pertinent data, future potential operations and conditions.

*Formal organization*—the organization resulting from use of prescribed communication channels, standardized methods, clearly defined jobs, and stated chains of command.

*Fringe benefits*—insurance plans, pensions, vacations, and similar benefits.

*Fundamental functions of management*—the activities that make up the process of management.

*Gaming*—a technique emphasizing competition and measurable data in which objectives are sought amid the countermoves by competitive players.

*Group norm*—an agreement among the members of the group concerning how the members should behave.

*Hierarchy of objectives*—the integrated pattern of objectives existing within an enterprise from the top to the bottom level.

*Illusion of communication*—believing that mutual understanding has taken place because one person has spoken or written to another.

*Image, company*—the public's general impression of a company.

*Informal organization*—an organization of members with common social interests, not prescribed by formal organization, and existing as an addition to the formal organization.

*Interaction*—reciprocal reactions of people in a group to variables in a situation or to each other.

*Inventory*—stocks on hand including any one or all of the following: raw materials, work in process, and finished goods.

*Job description*—the objectives, authority and responsibility, and relationships with others required by the person occupying a specific position.

*Job evaluation*—a systematic determination of the proper relationships among wages paid for various jobs within an enterprise.

*Job scope*—the number of different types of operations performed.

*Just-in-Time (JIT)*—a demand-pull system. Demand for customer output (not plans for using input resources) triggers production.

*Linear programming (LP)*—a mathematical technique designed to determine an optimal decision (or an optimal plan) chosen from a large number of possible decisions.

*Make-or-buy (outsourcing) decision*—choice between producing a part or product by use of the company's own plant or buying it from an outside supplier.

*Management by objective (MBO)*—a philosophy of management that is based on converting organizational objectives into individual objectives.



*Management information system (MIS)*—a computer-based or manual system which transforms data into information useful in the support of decision making.

*Management*—a process or form of work that involves the guidance or direction of a group of people toward organizational goals or objectives.

*Marginal analysis*—the determination of the point at which the cost of an extra unit of input will exactly pay for itself.

*Merit rating*—formal periodic evaluating of employee's performance of his or her job.

*Method*—a plan prescribing the details of how a specific task is to be done.

*Minimization*—the attainment of the least quantity possible under the existent relationships of variables, objectives, and constraints of a problem.

*Model, mathematical*—an abstraction in which the relationships existing among the variables and the objective are expressed in mathematical terms.

*Monte Carlo*—a quantitative technique used for predicting the timing or frequency of events within a specific period.

*Motion study*—analysis of motions performed and determination of improvements so that work can be accomplished more efficiently.

*Non formal behavior*—behavior that is not formally intended, but exists out of, not in addition to (informal behavior), the formal behavior prescribed by formal organization.

*Optimization*—the attainment of the greatest quantity possible under the existent relationships of variables, objectives, and constraints of the problem.

*Organization chart*—chart drawn to help visualize the organization structure.

*Organizing*—the grouping of component activities, assigning each grouping to a manager, and establishing authority relationships among the groupings.

*Payout period*—the time required for an investment of a new machine or piece of equipment to pay for itself.

*Performance appraisal*—formal periodic evaluating of employee's performance of his or her job.

*Planning*—determining what work must be done to accomplish stated goals.

*Policies*—broad, general guides to action which relate to goal attainment.

*Power*—the ability to command or apply force and is not necessarily accompanied by authority.

*Procedure*—a series of related steps or tasks expressed in chronological order to achieve a specific purpose.

*Procedure*—a type of plan prescribing the exact chronological sequence of specific tasks required to achieve designated work.

*Program Evaluation and Review Technique (PERT)*—a management tool for planning, scheduling, costing, coordinating, and controlling complex projects.

*Program*—a comprehensive plan, frequently inclusive of future uses of different resources of an enterprise, expressed in an integrated format.

*Protestant ethic*—the viewpoint that hard work, individual effort, and thrift are qualities to be admired.

*Queuing*—the quantitative approach to determine the facilities to be provided when the need for them varies at random.

*Ratio analysis*—means of evaluating performance of an enterprise by examining the relationships between various figures such as net sales to working capital.

*Responsibility*—the obligation of an individual to perform assigned duties to the best of his or

her ability.

*Role playing*—acting or assuming a role of a situation, frequently for purposes of human relations training,

*Rules*—require that specific and definite actions be taken or not taken with respect to a given situation.

*Science*—organized body of knowledge.

*Seniority*—length of service.

*Simulation*—the trying out of various alternatives and values of variables to determine what results they bring about. A model is used and work is expedited by a computer.

*Social deviant*—one who goes contrary to the mores of those surrounding him.

*Social ethic*—the concept that man is primarily a group member and should subordinate his individuality to the group mores.

*Social responsibilities of management*—those managerial responsibilities to employees, the local community, the state, the nation, and the human race.

*Span of authority (span of control)*—the number of subordinates that report to a manager.

*Staffing*—recruiting, selecting, promoting, transferring, and retiring of management members.

*Standard*—a norm or expectancy used to evaluate performance.

*Strategic planning*—answers the question, “Where should we (managers of an enterprise) be going?” It covers a relatively long period of time, includes the formulation of objectives, and affects many facets of the organization.

*Strategy*—choosing how resources may be used most effectively to reach a stated goal.

*Synergism*—the action of separate but related parts producing a sum greater than its components. It is sought for in organizing.

*System*—assemblage of two or more functions related in some way so that an action in one brings about reaction in the other or others.

*Tactical planning*—covering a relatively short period of time, is primarily concerned with how to attain objectives and is usually very specific in nature.

*Time study*—the determination of the time necessary to perform a task. Several different methods are available.

*Total quality management (TQM)*—concept of using quality methods and techniques to strategic advantage within firms.

*Unit cost*—the cost of a single unit of a product.

*Value analysis*—efforts to improve the relationship of present worth to product cost.

*Variable cost*—cost that tends to vary with total sales increase or decrease.

*Variance*—(1) in statistics, the square of the standard deviation, (2) in cost analysis, the deviation between the actual cost and the standard cost.

*Working capital*—the difference between current assets and current liabilities.

*World Wide Web (WWW)*—Internet system for world-wide hypertext linking of multimedia documents, making the relationship of information that is common between documents easily accessible and completely independent of physical location.

*Zero defect program*—planned efforts emphasizing the importance and self-will of personnel to give high quality performance.

*Zero-base budgeting (ZBB)*—a method of budgeting in which cost and benefit estimates are built up from scratch, from the level of zero, and must be justified.