

Major Influences on Industrial Psychology

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MAJOR INFLUENCES ON INDUSTRIAL PSYCHOLOGY

"It is easier to produce ten volumes of philosophical writing than to put one principle into practice." —Leo Nikolaevich Tolstoy

DEVELOPMENT OF MANAGEMENT THOUGHT

" "

"Management theories are explanations of why a particular practice is effective or ineffective."

MANAGEMENT THEORIES

It can be classified into four main schools of thought:

1. Pre-scientific management theory
2. Classical Theory or Traditional Theory
 - (A) Taylor's Scientific Management Theory
 - (B) Fayol's Administrative Management Theory
 - (C) Weber's Bureaucracy theory
3. Behavioural theory or Neo-classical theory
 - (A) Human Relation Theory (Hawthorne experiments)
 - (B) Behavioural Science Theory
4. Modern Management Theory
 - (A) Quantitative Theory
 - (B) Systems Theory
 - (C) Contingency Theory
 - (D) Operational Theory

1. Pre-Scientific Management Theories

- (a) **Charles Babbage:** One of the early British thinkers on management, Babbage, was the forerunner of scientific management. He emphasized on work specialization (dividing the work into various job) to increase industrial efficiency. His findings are also reflected in Taylor's scientific management.
- (b) **James Montgomery:** He was a textile owner manager in Scotland. He focused on the importance of planning, organizing and controlling of business units and wrote management texts for their efficient working.
- (c) **Robert Owens:** He was a textile entrepreneurs and is known as the father of personnel management. He advocated improving living conditions of employees. He believed that higher wages, workers participation in managerial decision making and positive motivation can increase productivity.
- (d) **Andrew Ure:** He was an English industrialist who believed in educating managers by imparting training and moral education to them.
- (e) **Charles Dupin:** He was an industrial educator in France. He emphasized more on management education than technical education.

2. Classical Theory

It is the oldest theory of management and is therefore called the traditional theory of management. The classical viewpoint is a perspective on management that finds ways to manage business organizations effectively.

- (4) **Taylor's Scientific Management Theory (1856–1915):** Scientific management theory was introduced by Frederick W. Taylor (1856–1915) **who is also known as the father of scientific management.** Taylor has defined scientific management as follows:

"Scientific management is concerned with knowing exactly what you want men to do and then see in that they do it in the best and cheapest way." (How much work should be done in a day and how much should be paid for each day's work). Taylor's theory is based on his work experience in 3 companies:

- (i) Midvale Steel
- (ii) Simonds Rolling machine company
- (iii) Bethlehem steel

Elements and tools of Scientific Management:

1. Separation of planning and doing
2. Functional foremanship
3. Job analysis
4. Standardization
5. Scientific Selection and training of workers
6. Financial Incentives
7. Economy
8. Mental Revolution

Principles of Scientific Management:

1. Rule of thumb should be replaced with science
 2. There should be harmony and not discord in group action
 3. Cooperation and not individualism
 4. Maximum output and not restricted output
 5. Development of workers to their fullest capacity
- 1. Rule of thumb should be replaced with science:** Scientific working involves use of organized knowledge, precision and exactness as against rule of thumb which is based on mere estimates.
- 2. There should be harmony and not discord in group action:** All group actions should be based on mutual understanding so that group, as a whole, contributes to organizational output.
- 3. Cooperation and not individualism:** They should cooperate with each other, solve each other's problems and work as a team to achieve organizational goals.
- 4. Maximum output and not restricted output:** People should not restrict production. They should increase the output and share the benefits of increased output with the management.
- 5. Development of workers to their fullest capacity:** Development of workers through formal education, training and motivation will enable them to give their best to organizational output which will benefit both the organization and the workers.

(B) Fayol's Administrative Management Theory (1841–1925): (Henri Fayol's classical organization theory) (Management Process theory).

Fayol (1841–1925) worked with the French coal and Iron company as a junior executive and was promoted as Director in the same company. He retired in 1918.

Fayol is called the father of administrative management Theory. He looked at the problems of an organization with the management point of view. He used the word ‘administration’ instead of ‘management’ to emphasise that the principles of administration are universal and are equally applicable to private and public affairs. He wrote as a practical man of business reflecting on his long managerial career and setting down the principles he had observed.

His theory can be understood under the following headings:

(a) Industrial Activities of a business: Fayol divided business into six activities:

1. Technical—activities relating to production.
2. Commercial—activities relating to buying raw materials and selling or exchanging the finished goods.
3. Financial—activities relating to search, acquisition and optimum use of capital financial resources.
4. Security—activities relating to protecting human and non-human resources.
5. Accounting—activities relating to keeping account such as Profit and loss account and balance sheet. It minimize costs and maintain statistics.
6. Managerial—activities relating to planning, organizing, command, co-ordination and control.

(b) Functions of a manager: Fayol classified the following functions of managers:

1. Planning—to determine the goals of the organization and devise course of action to achieve them.
2. Organizing—to coordinate human and non-human resources of the organization to put the plans into actions
3. Commanding—to direct and guide the workers to perform their duties well.
4. Coordinating—to synthesize and synchronies the resources and activities of the organization to achieve the goals.
5. Controlling—to ensure that plans are effectively carried out and discrepancies are checked.

(c) Abilities of managers: These are the skills that managers must have at different levels of organization, like conceptual skill, technical skill, human skill etc. These skills vary according to the (1) level at which managers work and (2) size of the organization.

According to level: At higher levels, managers has more of conceptual skills and at lower levels they possess more of technical skills.

According to size of the organization: Industrial psychology at the same level performs duties of higher skill in a large-sized organization and of lower skill in a small sized organization.

The most important ability for a worker is technical. The relative importance of managerial ability increases as one goes up the scalar chain, for top level executives it becomes the most important skill.

These are the skills that managers must have at different levels of organization.

- (i) Managerial skill
- (ii) Technical skill
- (iii) Human skill

Skills according to size and level of organization:

- (i) According to level:

Higher level $\leftarrow \rightarrow$ Managerial skill

Lower level $\leftarrow \rightarrow$ Technical skill

- (ii) According to size of the organization:

Higher skill $\leftarrow \rightarrow$ Large sized organization

Lower skill $\leftarrow \rightarrow$ small sized organization

Large business \rightarrow Managerial skill

Small business \rightarrow Technical skill

Qualities of managers:

1. Physical—Health and vigor and address.
2. Mental—Ability to understand and learn, judgement, mental vigor and adaptability.
3. Moral—Energy, firmness, willingness to accept responsibility, initiative, loyalty, tact and dignity.
4. Educational—Knowledge of overall affairs of the organization.
5. Technical—Peculiar to the function.
6. Experience—Knowledge gained over a period of time while working in a particular functional area.

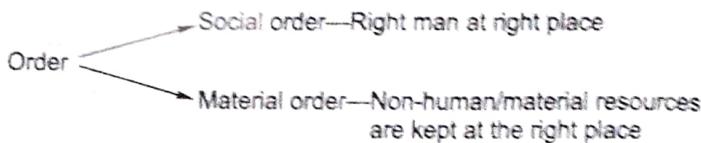
Principles of Management: Following are the principles as enunciated by Fayol:

1. **Division of work:** To take advantages of specialization, Fayol advocated division of work. It adds to efficiency in the use of labour. Division of work applies work at all levels of organization to all kinds of work.
2. **Authority and Responsibility:** Authority and responsibility are correlated. Responsibility is the essential counterpart of authority. Authority is continuation of official and personal factors. Official authority arises out of official position. Personal authority is derived from personal qualities such as intelligence, experience, moral worth, past services etc. Responsibility arises out of assignment of activity.
3. **Discipline:** Discipline means respect for rules and agreements. All personnel should be discipline in an organization. Discipline may be self imposed or by command. Self imposed discipline springs from within the individual and is the

nature of spontaneous response to a skillful leader. Command discipline stems from a recognized authority.

4. **Unity of command:** Unity of command means that an employee should get orders and instructions only from one superior. There should be one boss for one subordinate. People should receive orders from their immediate boss only. This helps in holding workers responsible to their superiors and reduces superior-subordinate conflicts.
5. **Unity of direction:** There should be one boss for one set of operations having the same objective. It signifies that each group of activities having the same objective must have one head and one plan. The Unity of direction aims to have better coordination among various activities to be undertaken by an organization.
6. **Subordination of individual interest to general interest:** Effort should be made to reconcile individual interest with common interests. Individual interest must be subordinate to the common interest. When there is conflict between the two, the common interest (interest of the organization) should prevail over individual interest.
7. **Remuneration:** Remuneration and method of payment should afford maximum satisfaction to both employers and employees. The remuneration of personnel must be fair and satisfactory. There should be a fair system of remuneration that ensures equal pay for equal work. Wage system must be based on such a system which may provide for the adequate remuneration to the employees, may motivate the employees, to do better and more, may ensure the safety and security of employees.
8. **Centralization:** In order to obtain the best over all result the extent to which the authority must be centralized or decentralized must be clearly defined and understood. According to Fayol, "The question of centralization and decentralization is a matter of finding optimum degree for the particular concern. The degree of centralisation of authority should be based upon optimum utilization of all the facilities of personnel." It refers to declining role of subordinates in the decision making process. Centralisation reduces the individual subordinate's role whereas decentralization increases it.
9. **Scalar chain:** This is the line of authority running from top level to lowest level of management. It is also known as hierarchy of authority. It decides the issue of authority i.e. who is superior to whom. All upward and downward communications should flow through each position of authority along the scalar chain.
10. **Order:** Order relates the arrangement of things and people. Everything should be in its place and there should be a place for everything. Fayol has stated two types of orders:
 - (a) **Social Order:** According to this principle, there must be an appointed place for every employee and every employee must be in his or her appointed place. Right man for the right job is the basic theme for this principle.

(b) **Material Order:** According to this principle, there must be a certain place for everything and everything must be at its proper place.



11. Equity: "All the employees of an organization are equal." This is the theme which must be followed in an organization. Equity is the combination of kindness and justice. It requires much good sense, experience and good nature. It only means that all the employees of the organization are equal and must be treated with justice and fairness.

12. Stability of Tenure of Personnel: It requires that there must be stability in the services of employees. No employee should be removed unnecessarily within a short period. Unnecessary turnover is the cause and effect of bad management having its own dangers and costs.

13. Initiative: Managers should encourage their employees to take initiative within the limits of their authority and discipline. Initiative is concerned with thinking out and execution of a plan.

14. Esprit-de-corps: This principle is based upon 'unity is strength'. It means harmony and understanding among the personnel. The manager should develop team spirit in his employees. Team spirit is of great importance to accomplish tasks.

Comparison of Taylor's and Fayol's Theories:

(a) **Points of Similarities:** Taylor's and Fayol's theories are similar to each other with respect to the following:

1. **Universality of Management:** Both of them realized the universality of management.
2. **Scientific Methods:** Both applied scientific methods to the problems of management.
3. **Importance of Personnel:** Both realized the importance of personnel and its management at all levels.
4. **Improvement of Practice:** Both wanted to improve the management practice.
5. **Ideas through Experience:** Both of them developed their ideas through practical experience.
6. **Books:** Both of them expressed their ideas through their books.
7. **Mutual Cooperation:** Both of them emphasized mutual cooperation between employers and employees.
8. **Increasing Output:** Both found ways for increasing output.
9. **Financial needs:** They emphasized on employees financial needs which can be satisfied through financial incentives.

- 10. Independent organization view:** They viewed organization as independent units with very little or no interaction with the external environment.
- 11. Set management Principles:** They developed a set of management principles important for industrial progress.
- 12. Emphasise on managerial qualities:** Both emphasize that managerial qualities can be acquired. Therefore, organizations should attempt to develop these qualities.

(b) Points of Difference:

S. No.	Basis of Difference	Taylor	Fayol
1.	Perspective	Shop-floor level.	Higher management level.
2.	Focus	Efficiency through work simplification and standardization.	Overall efficiency by observing certain principles.
3.	Orientation	Production and engineering.	Managerial functions.
4.	Results	Scientific observation and management.	Personal experiences translated into universal truths.
5.	Overall Contribution	Basis for accomplishments on the production line.	Systematic theory of management.
6.	Father	Father of scientific management.	Father of administrative management.
7.	Aim	Increase the production at shop level.	Increase overall production of the organization.
8.	Focus	Improving worker's output through work simplification and standardization.	Developing principles that can be used by industrial psychologists to coordinate internal activities of the organization.
9.	View level	The theory studies management from bottom to top.	Management is viewed from top to bottom.
10.	Theory	The main aim of Taylor was to improve productivity of labour and eliminate wastages.	Fayol attempted to develop a universal theory of management.
11.	Stability	This philosophy has undergone a big change under the influences of modern developments.	Fayol's principles of management have stood the test of time and are well accepted even in the present days.
12.	Perspective	It courses a narrow perspective of management.	It has a wider perspective and therefore wider applicability.

(C) Weber's Bureaucracy Theory (1864–1920): Max weber (1864–1920), a German sociologist, made significant contribution in the fields of management, economics, philosophy and sociology. In the field of management, his most significant contribution is his work on bureaucratic management. Bureaucracy is an administrative system designed to accomplish large scale administrative tasks by systematically coordinating the work of many individuals.

Types of authority in organizations: There are three types of legitimate authority in an organization—Traditional, charismatic and rational-legal or bureaucratic. He has emphasized that bureaucratic type of power is the ideal one.

- (a) **Traditional authority:** People obey a person because he belongs to certain class or occupies a position traditionally recognized as possessing authority, such as a royal family. (Authority by virtue of belonging to a particular class by birth).
- (b) **Charismatic authority:** Obedience is based on the followers' belief that a person has some special power or appeal. (Authority by virtue of their appeal and social power).
- (c) **Bureaucratic/Rational-legal authority:** Obedience is owed to a legally established position or rank within the hierarchy of a business. It was legal because authority was exercised by a person not by virtue of his appeal, class or reference but by his position in the organization and was bound by a system of well defined rules and regulations.

Features of Bureaucracy: A bureaucratic organization displays the following features:

1. **Division of work:** There is a high degree of division of work at both the operative and administrative levels. This leads to specialization of work.
2. **Scalar chain:** There is a hierarchy of authority in the organization. Business organizations follow a hierarchy of authority where order and instructions flow from top to bottom and obedience flows from bottom to top. Hierarchy facilitates communication, coordination and control within the organization. Each lower unit is controlled by the higher unit.
3. **Appointments on the basis of merit:** All appointments or selections are based purely on merit performance on the jobs. The bureaucrats are neither elected nor inherited but they are appointed through selection and the basis of selection is their technical competence. Promotions in bureaucracies are also based on technical qualifications and performance.
4. **Formal rules and procedure:** The rules, regulations and procedures are laid down by the top administration. Their benefits are:
 - (a) They standardize operations and decisions.
 - (b) They serve as receptacles of past learning.
 - (c) They ensure equality of treatment to everybody.
5. **Impersonal:** There is impersonality of relationships among the organizational members. The decisions are entirely guided by rules and regulations and are totally impersonal. There is no room for emotions and sentiments in this type of structure. The essence of bureaucracy is total depersonalization.
6. **Staffing:** The personnel are employed by a contractual relationship between the employee and employer. The tenure of service is governed by the rules and regulations of the organization.
7. **Official records:** all decisions and activities of the organization are formally maintained in official records and preserved for future reference.

3. Behavioural Theory

Management thinkers of this approach focused on human relations and attributed organization's success to organizational goals, and satisfaction of human needs.

The classical theorists viewed people as means of production and suggested ways to increase production. But unfortunately, industrial psychology could not achieve the targets of production as people at the work place did not always behave rationally.

In behavioural theory, the focus shifted from workplace conditions to human side of the organization.

The focus changed from job to workers who performed those jobs. 'Production-oriented' was substituted by 'people-oriented' approach. Behavioural theory is a "perspective factors that emphasizes the importance of attempting to understand the various factors that affect human behaviour in organizations."

It recognizes that employee's behaviour is not affected by job conditions alone. Internal reactions to the job situation also affect their behaviour.

Two main theories which promote this idea are Human Relation Theory and Behavioural Science Theory.

(A) Human Relations Theory (1880–1949) : This theory finds the impact of 'what is achieved, how it is achieved and why it is achieved on people in the organizations' (Terry and Franklin). The approach emphasizes on the fact that "Management does not do, it gets others to do". When focus of management is human beings and human relations, the morale of workers goes up and productivity and efficiency of the organizations increase.

Elton Mayo and Human Relations Theory

The most significant contribution to this approach is made by Elton Mayo who is regarded as the Father of Human Relations Approach. He conducted a series of experiments at the Hawthorne plant of the Western Electric Company between 1927 and 1932 (known as Hawthorne Studies are divided into three groups) to study the impact of human factors on productivity.

The Hawthorne Studies are divided into three groups:

(a) Test Room studies:

- (i) Illumination experiment
- (ii) Relay assembly test room experiment

(b) Interviewing Studies

(c) Observation Studies

(a) Test Room Studies: These studies were conducted by Western Electric researchers to study the impact of a single variable on worker productivity. Two important experiments were:

- (i) **Illumination experiment:** The effect of lighting on two groups was studied; one, whose lighting conditions were changed and the other, whose lighting conditions remained constant. For the first group of workers when lighting

conditions improved, productivity went up but surprisingly, even when the lighting conditions declined, productivity went up. For the second group of workers also the output increased as the first group's lighting conditions were altered though there was no change in lighting conditions of this group. This made Mayo conclude that there was something more than just the lighting conditions that contributed to industrial productivity.

(ii) Relay Assembly Test Room Experiments: Relay assembly test room experiments were designed to determine the effect of change in various job conditions on group productivity as the illumination experiments could not establish relationship between intensity of illumination and production. For this purpose the researchers set up a relay assembly test room and two girls were chosen. These girls were asked to choose four more girls as coworkers. The work related to the assembly of telephone relays. Each relay consisted of a number of parts which girls assembled into finished products. Output depended on the speed and continuity with which girls worked. The experiments started with introducing numerous changes in sequence with duration of each change ranging from four to twelve weeks. An observer was associated with girls to supervise their work. Before each change was introduced, the girls were consulted. They were given opportunity to express their viewpoints and concerns to the supervisor. In some cases, they were allowed to take decisions on matters concerning them. Following were the changes and resultant outcomes:

1. The incentive system was changed so that each girl's extra pay was based on the other five rather than output of larger group, say, 100 workers or so. The productivity increased as compared to before.
2. Two five-minute rests—one in morning session and other in evening session—were introduced which were increased to ten minutes. The productivity increased.
3. The rest period was reduced to five minutes but frequency was increased. The productivity decreased slightly and the girls complained that frequent rest intervals affected the rhythm of the work.
4. The number of rest was reduced to two of ten minutes each, but in the morning, coffee or soup was served along with sandwich and in the evening, snack was provided. The productivity increased.
5. Changes in working hours and workday were introduced, such as cutting an hour off at the end of the day and eliminating Saturday work. The girls were allowed to leave at 4.30 p.m. instead of usual 5.00 p.m. and later at 4.00 p.m. Productivity increased.

As each change was introduced, absenteeism decreased, moral increased and less supervision was required. It was assumed that these positive factors were there because of the various factors being adjusted and making them more positive. At this time, the researchers decided to back to original position, that is, no rest and other benefits. Surprisingly productivity increased further instead of gaining down. This development caused a considerable amount of redirection in thinking and the result

implied that productivity increased not because of positive changes in physical factors but because of a change in the girls' attitudes towards work and their work group. They developed a feeling of stability and sense of belongingness. The relationship between supervisor and workers became close and friendly.

(b) Mass Interviewing Programme: During the course of experiments, about 20,000 interviews were conducted between 1928 and 1930 to determine employee's attitudes towards company, supervision, insurance plans, promotion, and wages. The interview programme gave valuable insights about the human behaviour in the company. Some of the major findings of the programme were as follows:

- (i) A complaint is not necessarily an objective recital of facts; it is a symptom of personal disturbance the cause of which may be deep seated.
- (ii) Objects, persons, and events are carriers of social meanings. They became related to employee satisfaction or dissatisfaction only as the employee comes to view them from his personal situation.
- (iii) The personal situation of the worker is a configuration, composed of a personal preference involving sentiments, desires, and interests of the person and the social reference involving sentiments, desires and interests of the person and the social reference constituting the person's social past and his present interpersonal relations.
- (iv) The position or status of a worker in the company represents a system of values from which the worker assigns meaning and value to the events, objects, and features of his social status and the expects social rewards.
- (v) The social organization of the company represents a system of values from which the worker derives satisfaction or dissatisfaction according to the perception of his social status and the expected social rewards.
- (vi) The social demands of the worker are influence by social experience in groups both inside and outside the work plant.

(c) Bank Wiring Observation Room Experiments: These experiments were carried on between November 1931 and May 1932 with a view to analyze the functioning of small group and its impact on individual behaviour. A group of fourteen male workers was employed in the bank wiring room nine wiremen, three solder men and two inspectors. The work involved attaching wire to switches for certain equipment used in telephone exchange. Hourly wage rate for the personnel was based on average output of each worker while bonus was to be determined on the bases of average group output. The hypothesis was that in order to earn more, workers would produce more and in order to take the advantage of group bonus, they would help each other to produce more. However, this hypothesis did not hold valid. Workers decided the target for themselves which was lower than the company's target, for example, group's target for a day was connecting 6600 terminals against 7300 terminals set by the company. The workers gave following reasons for the restricted output:

1. **Fear of Unemployment:** The basic reasoning of workers was that if more production per head was affected, Some of the workers would be put out of employment.

2. **Fear of Raising the Standards:** Most workers were convinced that if once the standard rate of production was achieved, management would raise the standard of production reasoning that it must be easy to attain.
3. **Protection of Slower workers:** Workers also had fear in mind that if standard rate of production was attained, slower workers would be first to be put out of jobs as they would not be able to reach the standards. They appreciated the fact that they had family responsibility that required them to remain in the job, so that slower workers were likely to be retrenched, the faster workers protected them.
4. **Satisfaction on the Part of Management:** According to workers, management seemed to accept the lower production rate as no one was being fired or even reprimanded for restricted output.

(B) Behavioural Science Theory : Human relations theory lacked scientific vision to the study of human behavioural. This was considered in the behavioural science theory. Researchers like Elton Mayo and others applied scientific methods to study human behaviour at their work place. They applied the concepts of scientific sciences or behavioural science (Psychology, sociology and Anthropology) to understand the behaviour of human beings. Psychology is the study of individual human behaviour. Sociology is the study of human behaviour in groups. Anthropology is the study of human behaviour as individuals and members of groups. Thus, these researchers came to be known as behavioural scientists rather than 'human relations theorists'.

Features

1. It emphasizes on participative and group decision-making rather than individual decision-making.
2. It emphasizes on self-direction and self-control rather than control by top industrial psychologists.
3. It suggests positive measures to improve the performance of sub-standard workers rather than taking negative actions against them.'
4. It considers organization as a group of individuals and identifies the reasons why individuals join groups and factors that influence the group behaviour. Informal groups and group norms are considered important.
5. It focuses on the importance of democratic-participative style of leadership through autocratic style is also desirable in some situations.
6. It introduces the concept of 'complex man' over 'social man' with varied needs. According to behavioural scientists, human behaviour is need-based and, therefore, they react to direct situations in different ways.
7. It appreciates the role of conflict in the organization. Conflict of opinion is considered desirable for human development.

4. Modern Management Theory

With increasing complexities of organizations, modern management theory developed which is a synthesis of quantitative theory, systems theory, contingency theory and operational theory of management.

Characteristics of Modern Management Theory: The modern management thought is characterized by the following characteristics:

1. **The Systems Approach:** As a system an organization has five basic parts: (a) Input, (b) Process, (c) Output, (d) Feedback and (e) Environment.
 2. **Dynamic:** Business organizations are dynamic institutions composed of inter-related divisions and sub-divisions.
 3. **Multi-level and Multidimensional:** Business firms have multiple objectives. Industrial psychologists balance economic and non-economic objectives and maximize the interests of diverse groups of stakeholders like shareholders, customers, suppliers etc. Systems approach points out wheels or complex multi-level and multidimensional character.
 4. **Multidisciplinary:** Management is multi-disciplinary in nature. It draws knowledge from various disciplines and synthesis if for solving industrial psychologist problems.
 5. **Future Oriented:** Management is future oriented. It forecasts environment through scientific techniques of forecasting and discounts it to make decisions in the present. Effective forecasts reduce risk and increase organization's adaptability to changing environmental variables.
 6. **Multimotivated:** Systems approach recognizes that there may be several motivations behind our actions and behavior. Management has to compromise and integrate these multiple diverse objectives.
 7. **Adaptive:** The survival and growth of an organization in a dynamic environment demands an adaptive system which may continuously adjust to changing conditions.
 8. **Probabilistic:** Management principles point out only the probability and never the certainty of performance and the consequent results. Managers have to face so many variables simultaneously.
- (A) **Quantitative Theory :** This theory is also known as operations research theory, decision theory or management science theory. It refers to:
- (i) Emphasize the use of systematic mathematical techniques and models in solving complex management problems.
 - (ii) Helps in making decisions for operations and productions.
 - (iii) Used in decision making on complex problems by using mathematical and statistical tools.
 - (iv) Quantitative technique are based on systematically observed systems and mathematical models.
 - (v) Linear programming, Queuing theory, Inventory modeling, Simulation and Game theory are the areas where operation research are used.

(B) Systems Theory : System means to bring together or to unite. According to Cleland and King System approach is defined as: "A system is composed of related and dependent elements which when in interaction, form a unity whole".

Components of a System: The components of a system are as follows:

- (a) Sub-system:** Each part of a bigger whole is a sub-system. These parts make the whole organization. Each sub-system is part of larger system which, in turn, is sub-system of a still larger system.
- (b) Synergy:** The sum total of parts is less than that of whole. If each department work independently, total output would be less than what is produced by all of them together. Synergy defines relationship amongst all parts of the organization.
- (c) Open and closed system:** System can be open or close. Open system actively interacts with environment to receive input in the form of raw material, labour, finance, industrial psychologistial and technical expertise and sell outputs (goods and services) to the society. A closed system, on other hand, has no or very little interaction with the environment.
- (d) System boundary:** Each system has a boundary that separates it from its environment.
- (e) Flow:** It represents the movement of inputs (men, material, money, machine etc.) into the system from the environment, their transformation into outputs (goods and services) and supply of outputs to the environment.
- (f) Feedback:** Feedback mechanism helps in knowing whether or not output is accepted by the environment. The information is feedback to the organization so that organizational operations can be accessed and if need be, corrected. Feedback means response of the environment to organizational outputs.

(C) Contingency Theory : Each organization is unique, each problem is unique, each decision is unique and therefore, the way of tacking every situation is also unique. Each decision or solution depends upon the variables that affect the situation. Different situations call for different decisions. There is no best way of doing things universally in all situations.

The contingency approach considers three important constraints within the organizations:

- (a) Technological constraints:** Different organizations require different technology. Some organizations (like iron and steel manufacturing units) require expensive technology limits the organization's capacity to adapt to the external environment.
- (b) Task constraints:** These constraints arise from the nature of work performed by employees. Some employees perform simple, methodical, repetitive tasks while others perform complex and non-repetitive tasks. Industrial Psychology should know variation in tasks (more or less) while applying the contingency theory.
- (c) Human constraints:** Competence of workers and factors that motivate them to work also affect contingency theory. If workers and factors that motivate them to work also affect contingency theory. If workers are motivated only by economic rewards, they

will not contribute to organizational output, whatever be the non-economic reward offered to them.

Characteristics of Contingency Approach:

- (i) Analysing and understanding the inter-relationships of an organization from managerial point of view so that he can adjust his actions according to the demands of that particular situation.
- (ii) It gives practical answers to the problems which require immediate solutions.
- (iii) The managerial function is to analyse the total situation.
- (iv) Effective command and motivation is the hub of contingency approach.
- (v) Managers should be pragmatic and open minded.

(D) Operational Theory : Operational theory is also regarded as the management process school of thought where management process is considered as a set of management functions which distinguish managers from non-managers. The emphasis on these functions varies with the actual situation. Managers seek knowledge of other theories with process framework as central management functions to be performed by them. This theory has practical application today. It tries to integrate the concepts, principles and techniques that underlie the task of managing.

REVIEW QUESTIONS

1. What are the various approaches/schools of management that influenced the development of Industrial psychology?
2. What is mental revolution? Explain.
3. What are the aims and principles of scientific management? Briefly discuss the main elements of scientific management.
4. What is the approach adopted by Taylor in studying the psychology of employees?
5. Define scientific management. Explain the changes which occur under scientific management in the internal organization of an industrial undertaking.
6. Discuss the contribution of scientific management to the development of industrial psychology.
7. Why do psychologists criticize scientific management? Discuss.
8. What do you know about the Administrative management theory? Compare it with scientific management theory.
9. List out the findings of Hawthorne experiments.
10. Why is Taylor known as the father of scientific management?
11. Explain in detail about Hawthorne studies.
12. Which three major projects were carried out at Hawthorne plant?
13. Discuss illumination experiments and its results.
14. Discuss the relay assembly room study. What were the results obtained?
15. Discuss the bank wiring room study. Why did the employees not attempt to raise the daily production level?

Chapter

7

Principles of Management and Scientific Management

Learning Objectives

After studying this chapter, you should be able to :

- State the meanings of principle and theory
- Explain the need for management theory and principles
- Give the nature of management principles
- Explain Henri Fayol's principles of management
- Describe the universality of management
- Define scientific management
- Describe the techniques of scientific management
- State the principles of scientific management
- Review the benefits of scientific management

Over the years, a number of principles of management have been suggested to assist in managerial thinking and action. Henri Fayol, J.D. Mooney, F.W. Taylor, Max Weber and many other management thinkers have derived certain generalisations from their experience in managing organisations. These generalisations have been termed as principles of management. The principles are only guides to action for the benefit of the managers. They are not rules and so are not rigid. The principles may be modified to suit the situations faced by the managers. As a matter of fact, the principles of management have *universal application*. They can be applied to different kinds of organisations such as

business, hospitals, clubs, educational institutions. They are also applicable under different economic systems of the world.

7.1 MEANINGS OF PRINCIPLE AND THEORY

7.1.1 Management Principle

A principle is a basic statement that provides understanding and guidance thinking and action. It is a functional truth that explains relationship between two or more sets of variables under a given situation. It is a basic element of management theory that helps in predicting what would happen if the principles were applied.

Principles and theory furnish the structural framework of a science. Principles are fundamental truths, or what are believed to be truths at a given time, explaining relationships between two or more sets of variables. The most meaningful principles are those which involve causal relationships between dependent and independent variables.

Quite often, principles are referred to as being *descriptive, prescriptive or normative*. A principle is descriptive if it merely describes a relationship between variables. A principle is prescriptive or normative if it is stated in such a way as to indicate what a person should do. Management principles are both descriptive and prescriptive.

7.1.2 Management Theory

A theory is a systematic grouping of interrelated principles. Its task is to bring together significant knowledge and to give a framework. There is a theory of management for the guidance of managers. Management theory supplies guideposts for action; it enables managers to approach various problems systematically. It does not mean that management theory can give managers a complete kit of tailor-made answers for every situation in which they find themselves. It simply provides management principles and concepts which should be applied judiciously. Every manager should have conceptual clarity to apply management theory systematically.

A theory is based on certain well defined concepts. A '*concept*' is a *mental image of a thing formed by generalisation from particulars*. Obviously, a clear definition of a work is an elemental type of concept. Concepts are the building blocks of theory and principles. Concepts must be clear and meaningful to those who use them. Only then information can be understood by a receiver in the sense in which the sender wants to convey.

7.1.3 Management Processes, Principles and Practices

Management processes refer to the functions of management and principles are general statements of truth. Practices imply the techniques used in

management. Processes and practices of management are guided by the principles. The principles of management are universal but the processes and practices are culture bound. For example, the principle of unity of direction applies to all organisations. But the process of delegation and the practice of employee participation in decision-making may differ from organisation to organisation.

6.2 NEED FOR MANAGEMENT THEORY AND PRINCIPLES

The utility of management principles lies in the foundation they provide for effective management. The management practices and techniques can be based on well-defined principles. By following the principles, a manager can avoid fundamental mistakes in dealing with people. He can also predict the results of his actions with confidence. As said by G.R. Terry, "Principles of management are to a manager as a 'table of strength of materials' is to a civil engineer."

The need and importance of 'management principles' is highlighted below :

- 1. To Increase Efficiency.** The established principles and techniques of management increase managerial efficiency as they provide managers with guidelines as to how they should operate under different situations. They can base their actions on their knowledge of management theory and principles and avoid the risky practice of trial and error.
- 2. To Crystallise the Nature of Management.** Lack of understanding of the management concepts, principles and techniques makes it difficult to analyse managerial job and to design programmes to train and develop managers. Therefore, it is essential to develop a science of management. It would help in understanding the scope of managerial functions and provide a broad framework for training of managers. In fact, a considerable body of knowledge of management has already come into existence and serves increasingly to crystallise the nature of management.
- 3. To Train and Develop Managers.** Training of managers is very important if they are to manage organisations efficiently. They must learn the science of management and understood the scope of managerial functions. A body of management principles, methods and procedures is necessary to train future managers. Without an organised body of knowledge, it would not be possible to train people for managerial positions.
- 4. To Influence Human Behaviour.** The behaviour of human beings is highly complicated. Principles provide broad generalisations which help in effective handling of workers. For instance, by following the principle of unity of direction, a manager can coordinate the

efforts of his subordinates towards a common goal. Thus, it can be said that management principles are aimed at influencing human behaviour.

5. **To Improve Research.** Research may be undertaken to expand the horizons of management knowledge if a structural framework of management theory exists. In fact, thousands of research projects are pursued every year by the students of management to test the validity of various hypotheses of management. These research projects would further enrich the management science.
6. **To Attain Social Objectives.** Management itself is a part of the society and it takes the inputs from the society and gives the output to the society. If the management is efficient, the resources of the society are better utilised. Better products at lower prices will be made available to the society. This will improve the quality of life of people. Management principles have an important role in preparing efficient managers. Proper understanding of management principles would enable managers to take realistic view of organisational problems and their solutions. They would have a revolutionary impact on the standard of living of the society.

It is generally claimed that though management experts have not succeeded in developing a comprehensive theory of management, yet they have been able to suggest a set of principles of management which can be applied regardless of time, place and organisation. The emphasis on management principles has been given by many management thinkers including Taylor, Fayol, Sheldon, Urwick, Mooney and Barnard. The principles have been developed to guide managers so that they may be able to take managerial decisions, not on the basis of trial and error or intuition, but on the basis of certain well-stated generalisations. The principles of management are true in all managerial situations and are applied whether it is a business organisation, a government organisation, a religious organisation, a social or any type of organisation; these principles are also true at all levels of management from the foreman to the top executive.

BOX 1

NEED AND SIGNIFICANCE OF MANAGEMENT PRINCIPLES

1. Increase in efficiency of the organisation.
2. Understanding of the nature of management.
3. Training of managers.
4. Modification of human behaviour.
5. Develop the science of management.
6. Achieve social objectives of the organisation.

7.3 NATURE OF MANAGEMENT PRINCIPLES

The principles of management have the following distinctive features :

- 1. General Statements.** Management principles have been derived out of experience and analysis only. They have not been tested under laboratory or controlled conditions. That is why they have been expressed in the form of general statements. They cannot be stated as rigorously as the principles of physical sciences. The obvious reason is that management principles deal with human beings who have different background, perceptions and needs.
- 2. Dynamic Guidelines.** The principles of management are flexible in nature. Refinements in principles take place continuously. This is made possible by the ever-increasing research in the field of management. Management principles change with the changes in environment in which the organisation exists. As such they must be accepted as flexible and dynamic as best as 'diagnostic guides'.
- 3. Based on Situation.** The application of management principles depends upon the specific situation being faced by the manager. Thus, they can be modified by the manager to meet the needs of the situation. The principles are neither absolute nor stable for all times to come. They are flexible in the sense that they can undergo a change according to the changed conditions. However, it does not mean that they may be overhauled according to the whims and experiences of even those who have not matured themselves in managing. If this is allowed, the principles will not withstand the test of time. The principles, if they are to serve as the foundation for efficient management in future, must be able to withstand the test in time.
- 4. Careful Application.** As said earlier, management principles are relative and not absolute laws which can be applied blindly in all situations. They must be applied carefully depending on organisational requirements and situational demands. According to G.R. Terry, "Management principles are capsules of selected management wisdom to be used carefully and discretely".
- 5. Universal Application.** Most of the management principles can be applied to all kinds of organisations. In other words, they are applicable to business organisations, social, political, religious and other non-profit organisations. Moreover, they have utility in all kinds of economics of the world. The universality of these principles has been established beyond doubt as they are being applied by various people managing different organisations. They are applicable to any kind of organisation wherever there is a need of coordinated efforts of human beings. This is because same managerial functions of planning, organising, directing and controlling are required to be performed for achieving the objectives of any organisation.

7.4 HENRI FAYOL'S PRINCIPLES OF MANAGEMENT

Fayol suggested fourteen principles of management which he found most frequently to apply in his work. He, however, recognised that there was no limit to the number of principles of management and the principles laid down by him were flexible and capable of adaptation to every need. The principles are discussed below :

1. **Division of Work.** It refers to the division of work among various individuals in the organisation to bring about specialisation in every activity. Fayol observed that specialisation belongs to the natural order. It tends to increase efficiency. It helps to avoid waste of time and effort caused by changes from one work to another. But when carried too far, it leads to loss of skill and craftsmanship of the employee, and makes the job monotonous and less interesting. Since division of work makes the job less satisfying, management practice of today gives serious thought to the possibility of job enlargement as a tool of job satisfaction.
2. **Authority and Responsibility.** Authority denotes the right or power to give orders to the subordinates. Responsibility means the duty which the subordinate is expected to perform by virtue of his position in the organisation. Responsibility must be expressed either in terms of functions or in terms of objectives. When a subordinate is asked to control the working of a machine, the responsibility is in terms of function and when a subordinate is asked to produce a number of units of a product, the responsibility is created in terms of objectives.
3. **Discipline.** Discipline means getting obedience to rules and regulations of the organisation. According to Fayol, discipline is obedience application, energy and outward marks of respect. Discipline is necessary for the smooth running of the organisation. Maintenance of discipline in the organisation depends upon the quality of leadership, clear and fair agreements and a judicious application of rules.
According to Foyal, discipline can best be maintained by : (i) having good superiors at all levels; (ii) entering into agreements either with the individual employees or with the union, as the case may be, that are as clear and fair as possible; (iii) ensuring that penalties are judiciously imposed.
4. **Unity of Command.** This principle emphasises that a subordinate should receive orders from one superior only. If he receives orders from more than one superior, he will not be able to carry out the orders in a proper manner. Fayol observed that if this principle is violated, authority will be undermined, discipline will be in a jeopardy, order will be disturbed and stability will be threatened. Dual command is a permanent source of conflict. Therefore, in every organisation, each subordinate should have one superior whose command he has to obey.

By observing the principle of unity of command, the following benefits may be achieved :

- (i) It helps clarify authority-responsibility relationships in the organisation.
- (ii) There will be no possibility of the subordinate receiving conflicting orders.
- (iii) The organisation structure will be simple and management will be more effective because there will be no confusion as to who is responsible to whom.

However, requirements of splintered as well as functional authority in the organisation create situations where the principle of unity of command stands violated. The violation of the principle of unity of command may lead to the following consequences :

- (i) Responsibility of a subordinate gets divided when he is made to receive orders from and report to more than one superior.
- (ii) The subordinate may prefer to give priority to execution of orders of different superiors at different times. This may create conflict among the superiors.
- (iii) The subordinate gets the opportunity to postpone the orders of one of his superiors on the false pretext that he is busy executing the orders of another boss.

5. Unity of Direction. Fayol expressed this principle to mean one head and one plan for a group of activities having the same objectives. It is the condition essential to the unity of action, coordination of strength and focusing of efforts. Fayol observed, "Unity of direction must not be confused with the unity of command (one employee should receive orders from one superior only). Unity of direction is provided for by sound organisation of the body corporate. Unity of command pertains to the functioning of the personnel. Unity of command cannot exist without unity of direction, but it does not flow from it".

The principle of unity of direction is useful for designing and functioning of the organisation structure, i.e., creating departments and sub-departments. Thus, sales activities having common objective should constitute one group, have one plan and be the responsibility of one manager. This will help in realising the objectives under the overall control and supervision of one head. If the principle is not followed, there will be unnecessary duplication of efforts and there will be inefficiency in operations.

6. Subordination of Individual Interest to the General Interest. The business enterprise is superior to individuals. *The interests of the organisation must prevail upon the personal interests of individuals.* This principle calls for the reconciliation of objectives of individual with those of the organisation and when the individual and organisational interests conflict, the latter must prevail. For the

achievement of organisational objectives, both the employees and management should subordinate their interests to the general interests of the concern.

7. Remuneration of Personnel. The employees must be remunerated fully for their services rendered to the organisation. The method of employee remuneration should be just and fair to everybody and as far as possible it should accord satisfaction to both the employees and the organisation.

8. Centralisation. Fayol referred to centralisation in the context of authority. It means concentration of authority at one place or at one level in the organisation. On the other hand, decentralisation refers to the dispersal of authority to the lower levels in the organisation. According to Fayol, the question of centralisation or decentralisation is a simple question of proportion. It is a matter of finding the optimum degree for the particular concern. In a small organisation, where manager's orders go directly to subordinates, there is absolute centralisation. In a big organisation, where the authority has been delegated to lower levels to the maximum possible extent, it cannot be called to have the top management. Thus, centralisation of authority rests with the top management. Thus, centralisation of authority is always present to a greater or lesser extent in every organisation.

9. Scalar Chain. Scalar chain is the chain of superiors ranging from the ultimate authority to the lowest level in the organisation. The line of authority is the route followed via every link in the chain by all communications which start from or go to the ultimate authority. Fayol felt that departure from the chain is necessary to have fast and effective communication. Communication should be short-circuited as far as possible.

The principle of scalar chain recognises the necessity of formal authority in the organisation. It has the following advantages :

- (i) There will be unity of command in the organisation and there will be no confusion of dual order. Every member will know under whom he is working and whose orders he is to obey.
- (ii) Delegation of authority, which is essential to organising, is facilitated.
- (iii) The scalar chain establishes the channels through which communication will pass.

There are two disadvantages also of the scalar chain. First, communication takes too much as the order comes from top level to the bottom in a chain. Secondly, there is a possibility of distortion of messages as every superior from top to bottom may add something to or delete something from the actual message. Therefore, the scalar chain should not be rigid. There should be provision for short-circulating the chain so as to allow quick communication and swift action as shown in Fig. 7.1. Fayol called it *gang plank* shown by the dotted line joining D and O.

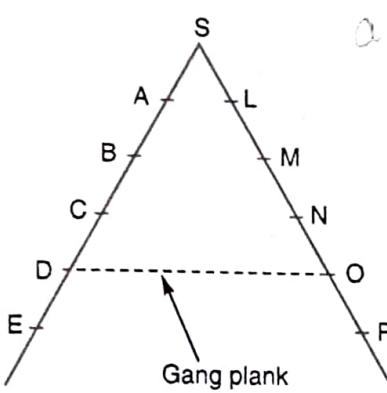


Fig. 7.1. Scalar chain

In the above figure, there are two ladders of authority one from S to E and the other from S to P. If D wants to communicate with O under the scalar chain, information will first flow upward from D to S through C, B and A, and then downward from S to O through L, M and N. Thus, communication will normally be a time consuming process. In order to allow swift action, D and O should be allowed to exchange information directly by using gang plank. This will help exchange information directly by using gang plank. This will help management to follow the scalar chain and at the same time ensure swift action as and when necessary.

10. **Order.** There must be "*a place for everything and everything in its place.*" This is what is meant by order. Fayol dealt with order in material things and also social order. In order to achieve order for material things, there must be a place specified for every thing and every thing must be in its specified place. For social order to prevail in the organisation, there must be an appointed place for every employee and every employee must be in his/her appointed place. There will be perfect social order in the organisation if there is right person in the right place.
11. **Equity.** Equity requires fair judgement in dealing with human resources. Personnel must be treated with kindness and equity if devotion and loyalty are expected of them. Equity does not exclude either forcefulness or sternness. The superiors in the organisation should be experienced and good-natured so as to deal with the subordinates in a proper manner.
12. **Stability of Tensure of Personnel.** This principle calls for lowest possible turnover of personnel for the well-being of the enterprise. Moreover, the employees should not be rotated at different jobs very frequently because considerable time is required to learn each job. According to Fayol, "Time is required for an employee to get used to new work and succeed in doing it well, always assuming that he possesses the requisite abilities. If, when he has got used to it or before that, he is removed, he will not have had time to render worthwhile service."

13. **Initiative.** Fayol wanted that the subordinates should be given an opportunity to take some initiative in thinking out and executing the plans. Employees get satisfaction when they are allowed to take initiative. Initiative on their part can be a great source of organisational strength.
14. ***Esprit de corps (Union is Strength).*** Literally speaking, the phrase *esprit de corps* means the *spirit of loyalty and devotion which unites the members of group*. It also means the *regard for the honour of the group to which one belongs*. This principle calls for harmonious human relations in the organisation so that the employees are loyal to the organisation. Harmony among organisational personnel is a source of strength. Unity among personnel can be accomplished by proper communication. Verbal contacts with the personnel should be encouraged as far as possible.

Fayol warned against two enemies of *esprit de corps*, viz. (i) divide and rule, and (ii) abuse of written communication. It will be dangerous for the firm to divide its workers. They should rather be welded in cohesive and highly interacting work-groups. Over-reliance on written communication also tends to disrupt the team spirit. Written communication, where necessary, should always be supplemented by oral communication because face-to-face contacts tend to promote speed, clarity and harmony.

TABLE 6.1 : Unity of Command vs. Unity of Direction

S.No.	<i>Unity of Command</i>	<i>Unity of Direction</i>
1.	It implies that a subordinate should receive orders and instructions from one boss only.	It means "one unit and one plan" for the group of activities having the same objective. The activities of a group should be directed towards its common goal.
2.	This principle is related to the functioning of personnel.	This principle is related to the functioning of a department or the organisation as a whole.
3.	Unity of command is necessary to fix responsibility of each subordinate.	Unity of direction is necessary for sound organisation.
4.	Unity of command avoids conflicts in the undertaking.	Unity of direction avoids duplication of efforts and wastages of resources.

7.5 APPRAISAL OF PRINCIPLES OF MANAGEMENT

Fayol used the word 'principle' only for convenience and according to him principles are not immutable laws. He simply described them as flexible and

capable of adaptation to every need. The principles are based on experience of various writers. The situations under which they were derived may not occur again. Simon has pointed that some of the principles are contradictory to each other, e.g., the principle of unity of command is incompatible with the principle of specialisation. But it does not mean that these principles should be discarded altogether. They may be modified to fit the new situations. These principles are not rigid laws and so they may not be applicable fully in all situations. They are simply guideposts which help a manager to take right decisions. They cannot be applied blindly even in similar situations. They are to be used carefully and discretely. To quote Fayol, "It is a matter of knowing how to make use of them; which is a difficult art requiring intelligence, experience, decision and proportion."

Fayol was a universalist in the sense that he thought that his principles would be applicable to all types of situations. He was of the opinion that his principles are not only applicable to business organisations with the same degree of clarity and success. The universality of these principles has been established beyond doubt as they are being applied by various people managing different organisations. They are applicable to any kind of organisation wherever there is a need of coordinated effort of human beings. This is because the same managerial functions are to be performed for achieving the objectives of any organisation.

It is conceded by the advocates of universality of management principles that these principles may require modification in different situations. "**Principles are flexible and capable of adaptation to every need.**" It is not out of place to add that the future managers will discover new principles of management to meet the new challenges which may occur as a result of changes in social, technological, political and economic environment.

BOX 2

HENRI FAYOL'S PRINCIPLES OF MANAGEMENT

1. Division of Work.
2. Authority and Responsibility.
3. Discipline.
4. Unity of Command.
5. Unity of Direction.
6. Subordination of Individual Interest to the General Interest.
7. Remuneration.
8. Centralisation.
9. Scalar Chain.
10. Order.
11. Equity.
12. Stability.
13. Initiative.
14. *Esprit de corps* (Union is Strength).

7.6 UNIVERSALITY OF MANAGEMENT

The concept of universality of management suggests that managerial knowledge may be transferred from one country to another and from one firm to another within the same country. In other words, the concepts and principles of management have universal application. The universality of management has two connotations as follows :

- (i) *Management principle can be successfully applied to different kinds of organisations.* In other words, they are applicable to business enterprises, clubs, hospitals, educational institutions, religious and political organisations.
- (ii) *Management principles are applicable in different economic systems of the world.* They have utility in America, England, India and every other country where inputs are to be converted into outputs.

There have been conflicting views on the universal application of management concepts and principles. Authors like Fayol, Taylor, James Lundy, Louis A. Allen, Dalton E. McFarland and Koontz and O'Donnell advocate that management is universal. But there are many management experts who do not subscribe to the concept of universality of management. They feel that management principles are not perfect like scientific principles and so cannot be applied in all organisations under different situations. Such experts include Ernest Dale, Drucker, W. Oberg, Joan Woodward and others.

7.6.1 Arguments in Favour of Universality of Management

The arguments in favour of the universality concept are discussed below :

- (i) **Emphasis on Managerial Functions.** The supporters of universality concept argue that as a manager, one must carry out all the functions of management, namely, planning, organising, staffing, directing and control. As a result, the principles of management will be useful to all managers, notwithstanding their position in the organisation, culture, or nature of the organisation. To quote Koontz and O'Donnell, "As a manager each must, at one time or another, carry out all the duties characteristic of managers. This is the principle of universality of managerial functions." Thus, the principles of management apply to all managers irrespective of their level of the nature of job.
- (ii) **Distinction between Fundamentals and Techniques.** Management fundamentals, theory and principles should be differentiated from managerial techniques or approaches. Managerial techniques and approaches may differ from culture to culture and from country to country. But management fundamentals have universal application. Koontz and O'Donnell feel that those who claim that management philosophy is not universal take management philosophy as attitudes of managers towards various elements of the organisation.

The application of management fundamentals may vary in different situations, but not the fundamentals themselves. The principles, concepts and skills of management are universal, only practices change. In practical life, managers shift from one organisation to another. Such shifts illustrate that there are some common principles and skills of management at work which are applicable to all organisations.

- (iii) **Common Problems of Effective Use of Inputs.** Though objectives differ from organisation to organisation, but all organisations face the problem of allocating scarce resources like time, human efforts, capital, etc., to the purposes which are not few. Such allocation requires certain common principles, concepts and skills of management. Managers shift from one company to another, from one industry to another. Such shifts indicate that there are general skills and principles of management at work. It is obvious that principles, concepts and skills are universal, only practices change. McFarland argues that whatever the administrative and analytical skills are transferable according to Drucker, they fall within the meaning of the term 'Management'.

Management know how refers to the effective application of knowledge, it includes knowledge of management fundamentals and the art of applying it in a given situation. It is the art of applying management fundamentals which will vary in different cultures and not the management fundamentals (basic concepts, theory and principles). The distinction between management fundamentals and management practice (*i.e.*, the application of management fundamentals to a given situation) must be clearly noted.

7.7 SCIENTIFIC MANAGEMENT

F.W. Taylor was the first management thinker who insisted on the introduction of scientific methods in management and it was he who, alongwith his associated, made the first systematic study of management. He launched a new movement in 1910 which is known as 'Scientific Management'. This is why, Taylor is regarded as the *father of scientific management*,

7.7.1 Meaning of Scientific Management

According to F.W. Taylor, "Scientific Management is the substitution of exact scientific investigations and knowledge for the old individual judgement or opinion in all matters relating to the work done in the shop." It implies the application of science to management of a business concern. It aims at replacement of traditional techniques by scientific techniques.

Scientific Management is a process of directing human efforts which employs scientific methods for getting highest productivity. In the words of Peter F. Drucker, "The thread of scientific management runs through operational study of work, the analysis of work into simplest elements and the systematic improvement of the workers' performance of each element."

Scientific Management is a thoughtful, organised human approach to the job of management as contrasted with hit or miss, rule of thumb. "It is the art of knowing exactly what you want men to do and then seeing that how they do it in the best and cheapest way." Scientific management includes finding the most efficient methods of production, scientific selection and training of workers, proper allotment of duties and work and achieving cooperation between workers and management.

In short, scientific management involves :

- (i) scientific study and analysis of work ;
- (ii) scientific selection and training of employees ; and
- (iii) standardisation of raw materials, working conditions and equipment.

7.7.2 Aims of Scientific Management

The aims of scientific management may be summarised as under :

- (a) **Increased Production.** Increase in the rate of production by use of standardized tools, equipment and methods.
- (b) **Quality Control.** Improvement in the quality of the output of research, quality control and inspection devices.
- (c) **Cost Reduction.** Reduction in the cost of a production by rational planning and regulation, and cost control techniques.
- (d) **Elimination of Wastes.** Elimination of wastes in the use of resources and methods of production.
- (e) **Right Men for Right Work.** Placement of right person on the right job through scientific selection and training.
- (f) **Incentive Wages.** Payment of wages to workers according to their efficiency.

7.8 TECHNIQUES OF SCIENTIFIC MANAGEMENT

The elements or mechanisms of scientific management as suggested by F.W.Taylor are discussed below :

1. Scientific Task Setting

Taylor felt that the workers restricted their output because of the major reason that there was no standard about a proper day's work. Therefore, it is essential to set the standard task which an average worker should do during a day. Taylor termed it "*a fair day's work*." The standard task is to be set by the management scientifically so that it represents the amount of work which an average worker, working under average standardised conditions in an atmosphere of mutual trust and cooperation, will be able to do during a day. It will act as a norm for the workers and will prevent them from doing work much below their capacity. It should be kept in mind that the standard task is neither too low nor too high. The average worker should be capable of doing the standard task. For the setting of standard task, scientific techniques should be used.

2. Work Study

Work study implies an organised, objective, analytical and critical assessment of the efficiency of various operations in an enterprise. It is a generic term for those techniques which are used in the examination of human work in all its context and which lead systematically to the investigation of all factors which affect the efficiency and economy of operations.

Work study includes the following techniques :

- (a) **Method Study.** This is conducted to know the best method of doing a particular job. It helps in reducing the distance travelled by material, and brings improvement in handling, transporting, inspection and storing of raw materials and goods.
- (b) **Motion Study.** It is the study of the movement of an operator or machine. Its purpose is to eliminate useless motions and find out the best method of doing a particular job. By undertaking motion study, an attempt is made to know whether some elements of a job can be eliminated, combined or their sequence changed to achieve the necessary rhythm.
- (c) **Time Study or Work Measurement.** Time study is an art of observing and recording the time required to do each detailed element of an industrial operation. Through time study the precise time required for each element of a man's work is determined. It helps in fixing the standard time required to do a particular job.
- (d) **Fatigue Study.** Fatigue, physical or mental, has an adverse effect on worker's health and his efficiency. Fatigue study helps in reducing fatigue among the workers. Fatigue is generally caused by long working hours without rest pauses, repetitive operations, excessive specialisation and poor working conditions. The purpose of fatigue study is to maintain the operational efficiency of the workers.

3. Planning the Task

Taylor emphasised the need for planning work. He advocated that planning function should be separated from the executive function. Workers should not be supposed to choose their own methods and decide what they have to do. The detailed planning should be done by the planning department. The planning department should (a) prepare detailed instructions for the workers as to the type, shape, quality and quantity of the products to be produced, (b) lay down the machines and equipment to be used, (c) determine the time required for completion of various operations, (d) make available the necessary materials and tools in carrying out the operations, and (e) receive feedback information for the modification of planning, if necessary.

4. Setting of Wage Rate

Wage rates should be fixed in such a way that the average worker is induced to attain the standard. Taylor suggested the *differential piece-wage system*. Under this system, higher rates are offered to those workers who produce more than the standard quantity. Taylor was of the view the efficient workers should be paid from 30% to 100% more than the average workers.

5. Standardisation of Tools and Equipment

Taylor advocated the standardisation of materials, tools and equipment, cost system and several other items. Efforts should also be made to provide standardised working conditions and methods of production to the workers. Thus, standardization is an important task for the introduction of scientific management in any enterprise. There are many advantages of standardisation. Firstly, operators can be trained easily. Secondly, it is economical to have standardised materials, tools and equipment etc. Thirdly, standardisation helps in achieving various economics of large scale production. Lastly, standardisation will improve the quality of production and reduce the cost of repairs and maintenance.

6. Scientific Selection and Training of Workers

The selection procedure must be designed carefully because errors committed at the time of selection may prove to be very costly later on. If the selection process is faulty, there will not be right workers on the right jobs. Thus, the efficiency of the organisation will be reduced. Taylor advocated the need for proper selection and training of workers. Only a worker who meets the requirements of his job can do it well and at the minimum cost. Training of workers is the other task of management after the appropriate placement of workers is the other task of management after the appropriate placement of workers. Training helps in changing the behaviour of the workers. It can be of great help in teaching them the best method of doing their job. Since the workers are trained, they will produce goods of high quality and incur less wastages.

7. Specialisation or Function Foremanship

Taylor advocated that specialisation must be introduced in a factory. He advocated *functional foremanship* for this purpose. In his scheme planning was separated from executing. He recommended eight foremen in all to control the various aspects of production. He advocated four foreman in the planning department, Namely, *route clerk, instruction card clerk, time and cost clerk* and *shop disciplinarian*. The four foremen recommended for getting the required performance from the workers include *gang boss, speed boss, repair boss* and *inspector*.

7.9 PRINCIPLES OF SCIENTIFIC MANAGEMENT

~~Taylor's scientific management is based on five principles which are discussed below:~~

1. Replacement of Old Rule of Thumb Method. Scientific investigation should be used for taking managerial decisions instead of basing decisions on opinion, intuition or rule of thumb. The principle of use of science for rule of thumb is the starting point that distinguishes scientific management from traditional management. Under scientific management decisions are made on the basis of acts as developed by the application of scientific method to the

problem concerned. This is in contrast with the approach followed under traditional management according to which decisions are based on opinions, prejudices, or rule of thumb. Thus substitution of rule of thumb or opinion by scientific approach is one of the primary contributions of Taylor to the field of management.

2. Scientific Selection and Training of Workers. The procedure for selection of workers should be designed scientifically. The errors committed, at the time of selection may prove to be very costly later on. If we do not have right workers on the right, the efficiency of the organisation will be reduced. Therefore, every organisation should follow a scientific system of selection. The selected workers are to be trained to avoid wrong methods of work. Management is responsible for the scientific education and training. The management has to prove opportunities for development of workers having better capabilities.

3. Cooperation between Labour and Management. There should be cooperation between the management and the workers. This requires change of mental attitudes of the workers and the management towards each other. Taylor called it *mental revolution*. When this mental revolution takes place, workers and management turn their attention towards increasing profits. They do not quarrel about the distribution of profits.

4. Equal Division of Responsibility. There must be equal division of responsibility between the managers and the workers. The management should assume responsibility for the work for which it is better suited. For instance, management should decide the method of work, working conditions, time for completion of work, etc. instead of leaving these to the discretion of workers. The management should be responsible for planning and organising the work, whereas the workers should be responsible for the execution of work as per instructions of management.

5. Maximum Output. The management and the workers should try to achieve maximum output in place of restricted output. This will be beneficial to both the parties. Maximum output will also be in the interest of the society.

BOX 3

PRINCIPLES OF SCIENTIFIC MANAGEMENT

1. Scientific Investigation in place of Rule of Thumb Decisions and Methods.
2. Scientific Selection and Training of Workers.
3. Cooperation between Management and Labour.
4. Equal Division of Responsibility between Management and Labour.
5. Maximum Output in place of Restricted Output.

7.9.1 Mental Revolution

The basic idea behind the principles of scientific management is to change the mental attitudes of the workers and the management towards each other. Taylor called it '*Mental Revolution*'. In the words of Taylor, "In its essence, scientific management involves a complete mental revolution on the part of the working men connected in any particular establishment or industry... and it involves equally complete mental revolution on the part of those on the management's side—the foremen, the superintendent, the owner of the business, the board of directors... Without the complete mental revolution on both sides, scientific management does not exist."

The great revolution that takes place in the mental attitude of the two parties under scientific management is that both sides take their eyes off the division of the surplus as the all-important matter, and together turn their attention towards increasing the size of the surplus until this surplus becomes so large that it is necessary to quarrel over how it should be divided. They come to see that when they stop pulling against one another, and instead both turn and push shoulder to shoulder in the same direction, the size of the surplus created by their joint efforts is truly astounding.

They both realise that when they substitute friendly cooperation and mutual helpfulness for antagonism and strife, they are together able to make this surplus so enormously greater than it was in the past that there is ample room for large increase in wage for the workmen and an equally great increase in profits for the manufacturer.

Taylor wanted to bring about mental revolution on the part of the workers and the management. Without the revolutionary change in attitudes, he could not think of scientific management. The mental revolution has three facts :

(i) all out efforts for increase in production.

(ii) creation of the spirit of mutual trust and confidence; and

(iii) inoculating and developing the scientific attitude towards problems.

Taylor suggested that management should try to find the best methods of doing various jobs and introduce standardized materials, tools and equipment so that wastages are reduced. The management should select right types of people and give them adequate training so as to increase the quantity and quality of production. It must create congenial working conditions for optimum efficiency of the workers. It should perform the decision-making function and should always give maximum cooperation to the workers to ensure that work is done according to the scientific techniques.

The workers should also change their attitude towards the management. They should not be work-shakers. They should be disciplined, loyal and sincere in fulfilling the tasks assigned to them. They should not indulge in wastage of resources. Both the management and the workers should trust each other and cooperate in achieving maximum production.

7.10 BENEFITS OF SCIENTIFIC MANAGEMENT

To Employers. Taylor's scientific management was associated with many benefits to the industry. According to Gilbreths, the main benefit of scientific management was, "conservation and savings, making and adequate use of every ounce of energy of any type that is expended." Scientific management leads to the following benefits to the employers :

1. Replacement of traditional rule of thumb method by scientific investigation.
2. Proper selection and training of the workers leading to better workforce.
3. Establishment of harmonious relationships between the workers and the management.
4. Achievement of equal division of responsibilities between the workers and the management.
5. Standardisation of tools, equipment, materials and work methods for increasing efficiency.
6. Better utilisation of various resources and elimination of wastes.
7. Scientific determination of fair work a worker can do during the day. This leads to establishment of good relations between the employers and the workers.

To Workers. The advantages of scientific management to the workers are listed below :

1. Detailed instructions and constant guidance for the workers.
2. Opportunity for training and development to increase skills.
3. Incentive wages to the workers for higher production.
4. Better working conditions and tools of work for good health of the workers.
5. Less fatigue in work because of application of scientific methods.

To Society. Scientific management was expected to bring the following benefits to the society in general :

1. Better quality products at lower costs to the people.
2. Higher standard of living of people through better products.
3. Increased productivity in the country.
4. Industrial peace in the country.
5. Technological development due to scientific investigation.

7.11 CRITICISM OF SCIENTIFIC MANAGEMENT

Scientific management was criticized on the basis of the following arguments :

- (i) **Speeding up of Workers.** Workers feel that scientific management attempts to force them to work their maximum. It does not bother about the adverse effect of such speeding up on the physical and

mental well-being of the workers. But it should be noted that scientific management improves methods of work, tools and equipment and working conditions in order to achieve higher productivity. The scientific management also undertakes fatigue study to provide suitable rest pauses to the workers in the course of work.

- (ii) **Boredom.** Scientific management introduces specialisation in the enterprise. The workers are supposed to do the routine work just like automatic machines. This creates the problem of monotony among the workers who start looking for better jobs in other organisations.
- (iii) **No Scope for Initiative.** Since there is a divorce between the functions of planning and doing, the workers get no opportunity to take initiative. They are supposed to do whatever they are told to do. They cannot take initiative and exercise their skills to find new methods of work.
- (iv) **Unemployment.** Workers feel that scientific management increases the efficiency through standard methods, working conditions, tools and equipment. Since the output per worker is increased there will be reduction in the employment opportunities.
- (v) **Exploitation of Workers.** Workers feel that *scientific management is a clever device for the exploitation of the workers.* They argue that their wages do not rise in the same proportion in which their productivity increases. A major portion of the gains from increased productivity is taken away by the employers. But it should be noted that owners have also to invest a lot of money on introducing scientific management. However, the share of gains given to the workers should be just and fair.
- (vi) **Weakening of Trade Unions.** Scientific management advocates harmony in the organisation. It discourages disputes over the distribution of gains from increased productivity. This in a way weakens the trade union movement.

7.12 COMPARISON OF TAYLOR AND FAYOL

The differences between the contribution of Taylor and Fayol are discussed below:

1. Taylor emphasised on the first line supervision in production area whereas Fayol concentrated on the higher levels of the organisational set-up.
2. Taylor paid greater attention to the standardisation of work and tools. His main concern was to increase the efficiency of the workers and managers at shop levels. But Fayol's management theory is from the point of view of the top managers, and his principles are applicable at all levels. Thus, Fayol worked from top level to downwards.
3. Taylor's approach was a kind of efficiency movement. But Fayol had a wider perspective. He tried to evolve principles which could be applied to administration in different spheres.

4. Taylor used the expression *scientific management* whereas Fayol called it *general theory of management*. The objective of Taylor was to improve the productivity of workers and eliminate all types of wastes. Fayol developed principles of management having universal applicability.
5. Taylor is known as the father of scientific management. Fayol is called the Father of Management Process or Functional Management.

However F.W. Taylor's principles and Henri Fayol's principles are mutually complementary to a great extent. They support each other. Taylor and Fayol have contributed a lot for the development of the science of management. Their contributions brought a revolution in the field of management. Theo Haiman has very rightly said, "*As long as we refer to Taylor as the father of scientific management, we would do justice to Fayol and his works to call him the father of principles of management*".

The reasons for the complementary nature of their principles are as under :

1. Both the writers suggested certain principles for the managers for achieving higher organisational efficiency.
2. Both suggested certain techniques to bring efficiency in the organisation. Taylor applied techniques like time and motion study, differential piece rates system, etc. Henri Fayol came with techniques like division of labour, unity of command and direction, principle of equity and order and concept of scalar chain, etc.
3. Both gave due emphasis to the importance of planning in management of any firm.
4. Both are responsible for the managerial revolution which took place after 1940 and both gave stress on the technical and professional aspects of management.

TABLE 6.3 : F.W. Taylor vs. Henri Fayol

<i>Point of Difference</i>	<i>F.W. Taylor</i>	<i>Henri Fayol</i>
1. <i>Concern</i>	Taylor's main concerns were tasks, workers and supervisors.	Fayol's work was concerned more with the efficiency of top level managers.
2. <i>Emphasis</i>	Taylor laid greater emphasis on standardisation of work and tools. The principles enunciated by him were more applicable at shop level.	Fayol laid emphasis on the principles of general management and the functions of managers.
3. <i>Expression</i>	Taylor used the expression scientific management.	Fayol expressed his idea as a general theory of administration.
4. <i>Focus</i>	Taylor tried to improve the productivity of the workers and eliminate all kinds of waste.	Fayol tried to develop principles to ensure better management of the whole enterprise.

5. Level/Perspective	Taylor started his studies and approach from lowest level in the organisation.	Fayol started his studies and approach from the highest level in the organisation.
6. Major contribution	Taylor's main contribution was development of scientific techniques and scientific principles.	Fayol's main contribution was development of fourteen principles of general management.
7. Personality	Taylor was a scientist and became famous as father of scientific management.	Fayol's had the personality of a researcher and practitioner. He became famous as father of general management.
8. Unity of Command	Taylor did not follow this principle as he insisted on eight bosses functional foremen to give instructions to each employee in their respective areas.	Fayol strictly followed this principle i.e., only one boss for an employee.
9. Application	Applicable to industrial organisations only.	Applicable to all kinds of organisations.

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Review Questions

MULTIPLE CHOICE QUESTIONS

- Management principles have been formed:
 - in a science laboratory
 - by practice and experience of managers
 - by experience of customers
 - enforced by the government
- Principles of management are :

Chapter 2

Development of Industrial Management

Learning Objectives

After studying this chapter, you should be able to :

- Explain industrial revolution and impact on industrial management
- Examine the contribution of forerunners of scientific management
- Describe various approaches to management
- Explain the contributions of classical and classical approaches
- Show acquaintance with the Hawthorne Experiments
- Describe the contributions of system and contingency approaches
- Highlight the recent approaches to management

The history of modern management can be traced to the industrial revolution in England and other European countries during the 18th and 19th centuries. The inventions during the industrial revolution, rise of factory system, growth of trade unionism, expansion of international trade, rise of consumerism, etc. have led to the development of different schools of management thought. The divergent directions of management thoughts have caused, Harold Koontz to call the resulting array "**management theory jungle**".

2.1 INDUSTRIAL REVOLUTION

Industrial revolution was the result of the inventions of many English scientists from 1760 to 1820. The need for inventions arose because of the increase in the demand of products due to widening of markets followed by the geographical discoveries of the late 15th and 16th centuries. It was beyond the capacity of the industry using labour intensive techniques to meet the increasing demand. The inventors in England had set for themselves a task of finding ways and means to remove the hindrances in production faced by the producers and manufacturers. James Hargreaves made 'spinning jenny' in 1764, and Richard Arkwright introduced 'waterframe' in 1779. Thereafter, many mechanical inventions came in quick succession such as 'mule spinner' by Crompton, and 'powerloom' by Cartwright. The invention of 'steam engine' enabled man to drive the machines by power. In brief, the significant contributions of industrial revolution were as follows:

- (i) Growth of engineering industries.
- (ii) Rise of chemical industries.
- (iii) Use of power driven machines.
- (iv) Revolution in iron making.
- (v) Advancement in coal mining.
- (vi) Development of means of transport.

Impact of Industrial Revolution on Industrial Management

Industrial revolution led to several economic consequences which had a great influence on the development of industrial management. These were as follows :

- (i) **Large scale production.** The industrial revolution made mass production of goods possible by the use of power driven machinery in place of hand operated tools.
- (ii) **Change of form of ownership.** Large scale production increased the size of industrial enterprises. Sole proprietorship concerns expanded into partnership firms which further developed into joint stock companies. The evolution of joint stock companies was an important outcome of the industrial revolution. It led to separation of ownership from management of factories.
- (iii) **Factory System.** Cottage system of production was greatly replaced by the factory system. The factories gave direct and indirect employment to a large number of workers. This necessitated the need of managers who could handle large number of workers in factories.
- (iv) **Specialisation.** Industrialisation led to a craze for specialisation in every field because of development in the means of transport and communication. Different parts of the country (and even different parts of the world) specialised in producing or manufacturing different commodities or components. It helped in reducing the cost of production.

Functional specialisation was also encouraged in the factories. There was a great need of managers who could look after purchasing, production, marketing, etc.

The above developments had a great impact on the nature of organisation and management. Use of power and machines necessitated large scale production and consequently large scale organisations. It encouraged the growth of scientific management. The separation of ownership and management and of management and employees further necessitated efficient management based on certain principles. The efficient management of workforce was another problem which caught the attention of management writers of that time. The contributions of some of the trailblazers or pioneers of industrial management are stated below.

2.2 FORERUNNERS OF SCIENTIFIC MANAGEMENT

Robert Owen

Robert Owen (1771-1858) was an outstanding pioneer of industrial management. He started a factory at Manchester for the manufacture of textile machinery and in 1800, he became the Managing Director of Chorlton Twist Company. He carried out experiments in the group of textile mills he managed during the period 1800 to 1828 and introduced many social reforms. He also began cooperative movement in 1828 in Rochdale, England.

Robert Owen has been referred to as the *Father of Personnel Management*. Throughout his life, he worked for the building up of a spirit of cooperation between the workers and the management. He believed and practised the idea that workers should be treated as human beings. He made provisions for reduced working hours, housing facilities, education of workers and their children, and a system of discipline combined with justice in the factories being managed by him. He also took active part in the introduction of British Factory Act, 1819. He was greatly admired for giving human treatment to the workers. He preached that personnel management pays dividends to the employers and is an essential part of every manager's job.

Charles Babbage

Charles Babbage (1792-1871) was a leading British mathematician at Cambridge University from 1828 to 1839. He invented a mechanical calculator in 1822 and also conceived an 'analytical machine' in 1833 which was a computer as it possessed all the basic elements of a modern computer. He is known in management for publishing a book entitled "**On the Economy of Machinery and Manufacturers**" in 1832. He perceived that the methods of science and mathematics could be applied to the solution of the problems of the factories. He advocated the use of accurate observations, measurement and precise knowledge for taking decisions in business enterprises. Truly speaking, he was a mathematical management scientist who was especially interested in the economics of division of labour and the development of scientific principles to govern a manager's use of facilities, materials and labour to get the best possible results. Later, he also advocated strongly for a kind of profit sharing system by which workers could share in the profitability of factories as they contributed to productivity.

Henry Varnum Poor

Henry Poor edited the 'American Railroad Journal' from 1849 to 1862. During that period, American railroads grew in importance and status. Rail lines were extended, new territories were opened and competition for business was keen. Henry Poor found that the railroads were being mismanaged and so he emphasized the need of effective management. He advocated that the railroad managers needed to be guided by three principles : organisations, communication and information. He saw the need for a managerial system with a clear organisation structure in which people were and could be held completely accountable—one with an adequate report communications system throughout the organisation so that the top management could know what was happening and the need for a set of operating reports summarising costs, revenue and rates.

Daniel C. McCallum

Daniel C. McCallum worked closely with Henry Poor and made use of Poor's recommendations for effective industrial management. He tried to find solutions to managerial inefficiencies which were plaguing the railroads at that time. His approach to run the railroad was one of system, commonsense, reports and control. He initiated job descriptions, made promotions on the basis of merit and insisted that those in charge of specific operations were both responsible and accountable for their successes and failures.

2.3 APPROACHES TO MANAGEMENT

Starting with the oldest school of management theory, the different approaches can be listed as follows :

- (i) Scientific Management approach.
- (ii) Management Process approach.
- (iii) Human Relations approach.
- (iv) Behavioural Science approach.
- (v) Quantitative approach.
- (vi) Systems approach.
- (vii) Contingency approach.
- (viii) Operational approach.
- (ix) Empirical approach.

(i) Scientific Management School

The industrial revolution in England gave an immense impetus for the scientific management approach. It brought about such an extra ordinary mechanisation of industry that it necessitated the development of new management principles and practices. Bringing groups of people together for the purpose of working in the factory posed problems for the factory owners. The establishment of formal organisation structure, formal lines of authority, factory systems and procedures had to be undertaken for coordinated effort. In

order to deal with these problems, a management movement known as 'Scientific Management' was born.

Frederick Winslow Taylor (1865-1915) was the first to recognise and emphasise the need for adopting a scientific approach to the task of management. The introduction of the concept of standard time, standard output, standard cost, standardisation of production process, change in the attitude of management and workers to bring about the mutuality of interests are the important landmarks of scientific management. This approach was supported and developed by Henry L. Gantt, Frank Gilbreth, Lillian Gilbreth, Harrington Emerson, etc.

(ii) Management Process or Administrative Management School

The advocates of this school perceive management as a process consisting of planning, organising, commanding and controlling. In the words of W.G. Scott, "It aims to analyse the process, to establish a conceptual framework for it, to identify principles underlying it, and to build a theory of management from them". It regards management as a universal process, regardless of the type of the enterprise, or the level in a given enterprise. It looks upon management theory as a way of organising experience so that practice can be improved through research, empirical testing of principles and teaching of fundamentals involved in the management process.

The process school is also called the '**traditional**' or '**universalist**' school as it believes that management principles are applicable to all the group activities. Henri Fayol is regarded as the father of this school. Oliver Shelden, J.D. Mooney and Chester I. Barnard are among the other important contributors to this approach.

(iii) Human Relations School

The human relations approach is concerned with the recognition of the importance of human element in organisations. Elton Mayo and his associates conducted the world famous Hawthorne Experiments and investigated the myriad of informal relationships, social cliques, patterns of communication and patterns of informal leadership. As a result of these experiments, a trend began which can be phrased as 'being nice to people'. This trend was eventually termed as 'the human relations movement'.

The human relations approach revealed the importance of social and psychological factors in determining workers' productivity and satisfaction. It was instrumental in creating a new image of man and the workplace. It put stress on interpersonal relations and the informal groups. "Its starting point was in individual psychology rather than the analysis of worker and work. As a result, there was a tendency for human rationalists to degenerate into mere slogans which became an alibi for having no management policy in respect of the human organisation." Nevertheless, this school has done a unique job in recognising the importance of human element in organisations.

(iv) Behavioural Science School

The 'behavioural science' approach utilises methods and techniques of social sciences such as psychology, sociology, social psychology and anthropology for the study of human behaviour. Data is objectively collected and analysed by the social scientists to study various aspects of human behaviour. The pioneers of this school such as Gantt and Munsterberg reasoned that in as much as managing involves getting things done with and through people, the study of management must be centred around the people and their interpersonal relations.

The advocates of this school concentrated on motivation, individual drives, group relations, leadership, group dynamics and so forth. The noted contributors to this school include Abraham Maslow, Fredrick Herzberg, Victor Vroom, McGregor, Lawler, Sayles, and Tannenbaum.

(v) Quantitative or Mathematical Approach

This approach stands for using all pertinent scientific tools for providing a quantitative basis for managerial decisions. The abiding belief of this approach is that management problems can be expressed in terms of mathematical symbols and relationships. The basic approach is the construction of a model because it is through this device that the problem is expressed in its basic relationships and in terms of selected objectives. The users of such models are known as operations researchers or management scientists.

Linear programming, Critical Path Method, Programme Evaluation Review Technique, Break-even analysis, Games Theory and Queueing Theory have gained popularity for solving managerial problems these days. These techniques help the managers in improving their decisions by analysing the various alternatives in a scientific manner. The application of mathematical techniques is particularly useful in solving the physical problems of management such as inventory and production control. They can never be substitute for knowledge, experience and training necessary for understanding the human behaviour.

(vi) Systems Approach

A system is composed of elements or subsystems that are related and dependent on each other. The system approach is based on the generalisation that an organisation is a system and its components are inter related and inter-dependent. This approach lays emphasis on the strategic parts of the system, the nature of their interdependency, goals set by the system and communication network in the system. Another basic feature of the systems approach is that attention is paid towards the overall effectiveness of the system rather than the effectiveness of subsystems. Under system approach, the overall objectives and performance of the organisation are taken into account and not only the objectives and performance of its different departments or subsystems.

The spiritual father of this school of management was Chester I. Barnard. The systems theory lays emphasis on the interdependency and interrelationships between the various parts of a system. It stresses communication and decision

DEVELOPMENT OF INDUSTRIAL MANAGEMENT

processes throughout the organisation. It follows an *open system approach*. The organisation as an open system has an interaction with the environment. It can adjust to the changes in the environment.

(vii) Contingency Approach

The latest approach to management is known as 'contingency' or 'situational' approach. Underlying idea of this approach is that the internal functioning of organisations must be consistent with the demands of technology and external environment and the needs of its members if the organisation is to be effective. This approach suggests that *there is no one best way to handle any management problem*. The application of management principles and practices should be contingent upon the existing circumstances. Functional, behavioural, quantitative and systems tools of management should be applied situationally.

There are three major parts of the overall conceptual framework for contingency management: (i) environment; (ii) management concepts, principles, and techniques; and (iii) contingent relationship between the two. The environment variables are independent and management variables (process, quantitative, behavioural and systems tools) are dependent. Every manager has to apply the various approaches of management according to the demands of the situation.

(viii) Operational Approach

Koontz and O'Donnell have advocated operational approach to management. This approach recognises that there is a central core of knowledge about managing which exists in management such as line and staff, patterns of departmentation, span of management, managerial appraisal and various managerial control techniques. It draws from other fields of knowledge and adapts within it those parts of these fields which are specially useful for managers.

"The operational approach regards management as a universally applicable body of knowledge that can be brought to bear at all levels of managing and in all types of enterprises. At the same time, this approach recognises that the actual problems managers face and the environments in which they operate may vary between enterprises and levels". The application of science by a perceptive practitioner must take this into account in finding solutions to management problems.

(ix) Empirical Approach

According to this approach, management is the study of the experiences of managers. The knowledge based on experiences of successful managers can be applied by other managers in solving problems in future and in making decisions. **Thus, the empirical school is based on analysis of past experience and uses the case method of study and research.** Managers can get an idea of what to do and how by studying management situations of the past. They can develop analytical and problem-solving skills. They can understand and learn to apply effective techniques in comparable situations.

No one can deny the value of analysing past experience to obtain a lesson for the future. But management, unlike law, is not a science based on precedent,

and future situations exactly resembling those of the past are unlikely to occur. Indeed, there is a positive danger in relying too much on past experience..... for the simple reason that a technique found "right" in the past may be far from an exact fit for a somewhat similar situation of the future.

2.4 CLASSICAL APPROACH

The classical approach is one of the oldest approaches to management and is also known by various names such as, *Functional approach*, *Management Process approach* and *Administrative Management approach*. The classical theory concentrates on organisation structure and principles of management. The classical writers include Taylor, Fayol, Weber, Gullick, Urwick, Mooney and Reiley and others. They placed emphasis on work planning, technical requirements, principles of management, formal structure, and assumption of rational and logical behaviour. This theory incorporates three viewpoints. (i) *Taylor's Scientific Management* (ii) *Fayol Administrative Theory*, (iii) *Weber's Bureaucracy*. These writers concentrated on structure and that is why their approach sometimes is characterized as 'structural framework of organisation'. F.W. Taylor insisted on application of scientific methods to the problems of management. Henri Fayol suggested fourteen principles of management and their universal application. Max Weber introduced rational structure called *bureaucracy*. It is characterized by division of labour, specialization, rationality, personnel competency, etc.

CLASSICAL THEORY

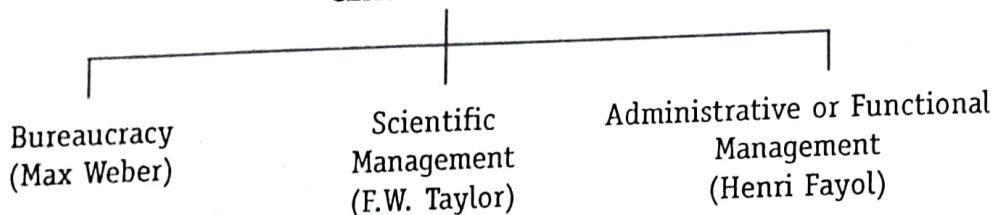


Fig. 3.1. Approaches in Classical Theory

2.4.1 Contributions of Classical Approach

The main features of classical theory are as under :

- (i) The classical theory concentrated on the study of formal organisations. It laid emphasis on division of labour, specialization, structure, scalar chain, functional processes and span of control.
- (ii) Management is the study of managerial experiences. If the experiences are studied and certain generalizations are derived therefrom, these will help the practising managers.
- (iii) The classical theorists emphasised organisation structure for coordination of various activities. They ignored the role of human element.
- (iv) The relationship between workers and management is established through formal communications, defined tasks and accountability

and formalised procedures and practices to minimise conflict between them.

- (vii) The worker is essentially an 'economic man' who can be motivated basically by economic rewards. Money is considered the main motivator under this theory.
- (v) The efficiency of the organisation can be increased by making each individual efficient.
- (vi) The integration of the organisation is achieved through the authority and control of the central mechanism. Thus, it is based on centralisation of authority.
- (vii) There is no conflict between the individuals and the organisation. In case of any conflict, the interests of the organisation should prevail.
- (viii) The classical school is based on the study of past managerial experiences and cases of various organisations. It implies that formal education and training is required for developing managers.

2.4.2 Criticism of Classical Approach

The classical theory has been criticized on the following grounds :

- (i) The classical approach ignored the human relations aspect and undermined the role of human factor. Its main emphasis was on formal structure, centralisation of authority, unity of command and narrow span of control.
- (ii) It viewed organisation as a closed system, i.e., having no interaction with the external environment.
- (iii) Economic rewards were assumed as the main motivator of workforce. The role of non-monetary factors was ignored.
- (iv) The classical principles are based on managerial experiences and their limited observations.
- (v) The classical approach is based on over-simplified assumptions. Its principles are ambiguous and contradictory.
- (vi) It emphasized on strict adherence to rules and regulations. The scope for individual initiative is thus limited.
- (vii) Classical writers laid emphasis on the universality of management principles. But in practice, management principles can't be applied blindly, they may need modifications to suit the situation.

2.5 NEO-CLASSICAL OR HUMAN RELATIONS APPROACH

The classical theory concentrated on formal organisation and ignored the 'human factor'. The neo-classical or human relations approach was proposed as a reaction to the classical approach which ignored human relations. The neo-classicists focussed on the human aspect of industry. They modified the classical theory by emphasizing the fact that organisation is a social system and the human factor is

the most important element within it. They conducted some experiments (known as Hawthorne Experiments) and investigated informal groups, informal relationships, patterns of communication, patterns of informal leadership, etc. This led to the development of human relations approach. **Elton Mayo is generally recognized as the father of the Human Relations School.** Other prominent contributors to this school include Roethlisberger, Dickson, Dewey, Lewin, etc.

2.5.1 Contributions of Human Relations or Neo-classical Approach

The salient features of neo-classical approach are as under :

- (i) **Social System.** Organisation in general is a social system composed of numerous interacting parts. The social system defines individual roles and establishes norms that may differ from those of the formal organisation. The workers follow a social norm determined by their co-workers, which defines the proper amount of work, rather than trying to achieve the targets management thinks they can achieve, even though this would have helped them to earn as much as they physically can.
- (ii) **Social Environment.** The social environment on the job affects the workers and is also affected by them. Management is not the only variable.
- (iii) **Informal Organisation.** The informal organisation does also exist within the framework of formal organisation and it affects and is affected by the formal organisation.
- (iv) **Group Dynamics.** At the workplace, the workers often do not act or react as individuals but as members of groups. A person who resists pressure to change his behaviour as an individual often changes it quite readily if the group of which he is a member changes its behaviour. The group plays an important role in determining the attitudes and performance of individual workers.
- (v) **Leadership.** There is an emergence of informal leadership as against formal leadership and that sets and enforces group norms. He helps the workers to function as a social group and the formal leader is rendered ineffective unless he conforms to the norms of the group of which he is supposed to be incharge.
- (vi) **Communication.** Both way communication is necessary because it carries necessary information downward for the proper functioning of the organisation and transmits upward the feelings and sentiments of people who work in the organisation.
- (vii) **Role of Money.** Money is only one of the motivators, but not the sole motivator of human behaviour. Man is diversely motivated and socio-psychological factors act as important motivators.
- (viii) **Conflict.** There is always a conflict between organisational and individual goals. For the smooth functioning of the organisation, it is necessary to achieve the integration between the goals of the organisation and those of the individuals.

Criticism of Neo-classical Approach

The neo-classical theory has been criticised on the following grounds :

- (i) **Invalid Assumptions.** Certain assumptions on which the neo-classical theory is based do not seem to be true. For example, the assumption that there is a solution to every problem which satisfies everyone in the organisation is not true. Often there are conflicts of interests among various groups in the organisation that are structural and not merely psychological.
- (ii) **Lack of Scientific Validity.** The human relationists drew conclusions from Hawthorne studies. These conclusions are based on clinical insight than on scientific evidence. The groups chosen for study were not representative in character. The findings based upon temporary groups do not apply to groups that have continuing relationship with one another. Moreover, the experiments focused on operative employees only.
- (iii) **Limited Application.** The various structures of organisation given by neo-classicists are not universal. Their application is limited. There is no particular structure which may serve the purpose of all the organisations.
- (iv) **Limited Focus on Work.** It lacks adequate focus on work. Human relations approach puts all the emphasis on interpersonal relations and on the informal group. It tends to overemphasise the psychological aspects at the cost of the structural and technical aspects.
- (v) **Over-concern with Happiness.** The human relationists suggested that happy workers would be productive employees. But they failed to show a consistent relationship between happiness or morale and productivity. It is quite possible to have a lot of happy but unproductive workers.
- (vi) **Fragmented Approach.** The theory lacks the unified approach. In fact, it is not a theory at all. All that was done in neo-classical theory is simply a modification of classical theory rather than organisational transformation. So this theory has almost the same limitations as the classical theory has.

BOX 1

HAWTHORNE EXPERIMENTS

Between 1927 and 1932, some significant experiments in the field of industrial psychology were carried out by George Elton Mayo and F.J. Roethlisberger, Professors of Industrial Research at the Harvard Graduate School of Business Administration, and William J. Dickson of Western Electric Company. An overview of the Hawthorne experiments is given below :

- (1) **Illumination Experiment.** The purpose of this experiment was to assess the effect of illumination on employee output. Two groups were selected from among the employees. One group was placed in the room where lighting

remained constant. The other group was placed in another room where lighting varied periodically. Surprisingly, the output of both the groups increased steadily. It was concluded that lighting was a minor factor and there were other more important factors influencing the output. At this stage, Mayo and his team was invited to conduct further studies.

(2) Relay Assembly Test Room Experiment. The test group consisted of six female workers. Frequent changes were made in their working conditions such as shorter working hours, rest periods, hot lunch, friendly and informal supervisors, free interaction among members of the group, etc. Productivity of the group increased even when the improvements in working conditions were withdrawn. It was concluded that socio-psychological factors, e.g., special attention, recognition and sense of group belonging exercise a greater influence on productivity than working conditions.

(3) Bank Wiring Observation Room Study. In this experiment, a group of fourteen workers was put under close observation. The pay of every member was made dependent on the performance of the group as a whole. It was found that the group had developed its own norms of performance and various forms of social pressure were exercised to enforce these norms. As a result output could not increase despite group incentive scheme.

(4) Mass Interview Programme. A large number of workers were interviewed by the researchers to understand their attitudes and opinions on the factors influencing productivity. It was found that the opportunity to talk freely about things that are important to workers, has a positive effect on their morale and productivity.

The major findings of the Hawthorne experiments or Human Relations studies are as under :

- (i) An organisation is a psycho-social system.
- (ii) Human factor is the most important element in the social system.
- (iii) The behaviour of an individual is dominated by the informed group of which he is a member.
- (iv) Workers are not merely rational economic beings motivated simply by money. They are also socio-psychological beings and respond to the total work situation.
- (v) Social and psychological factors exercise a greater influence on employee behaviour and performance than physical conditions of work.
- (vi) Workers act or react not as individuals but as members of a group. The informal groups have their own norms and beliefs. These groups and their leader exercise an overriding influence on the attitudes, behaviour and performance of individual employees.
- (vii) Workers respond to the total work situation. Their behaviour and performance are conditioned by factors inside and outside the work-place.

2.6 SYSTEMS APPROACH

The systems approach is based on the view that an organisation is a system composed of elements that are interrelated and interdependent. According to Cleland and King, "**A system is composed of related and dependent elements which, when in interaction, form a unitary whole.**" It is simply an assemblage or combination of things or parts, forming a complex whole. Its important feature is that it is composed of a hierarchy of subsystems. The world as a whole can be considered to be a system in which various national economies are subsystems. In turn, each national economy is composed of its various industries, each industry is composed of firms, and of course, a firm can be considered a system composed of subsystems such as production, marketing, finance, accounting and so on. Thus, each system may comprise several subsystems and, in turn, each subsystem may be further composed of sub-systems.

Closed vs. Open System. A system may be *closed* or *open*. A closed system is self-dependent and does not have any interaction with the external environment. Physical and mechanical systems are closed systems. A closed system concentrates completely on internal relationships, i.e., interaction between sub-systems only. Because of lack of

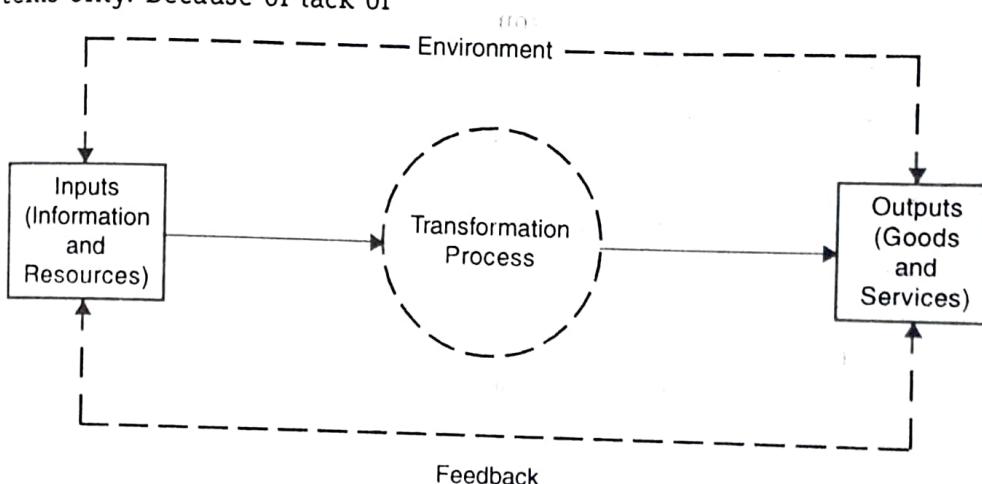


Fig. 2.2. Organisation as an open system

interaction with environment, it is unable to monitor changes occurring in the external environment. On the other hand, an open system has active interface with the environment through the input-output process as shown in Fig. 2.2. It can respond to the changes in the environment through the feedback mechanism. That is why, modern authors consider organisation as an open system.

2.6.1 Contributions of Systems Approach

The basic features of systems approach are as under :

- (i) A system consists of interacting elements. It is a set of interrelated and interdependent parts arranged in a manner that produces a unified whole.
- (ii) The various subsystems are studied in their interrelationships rather than in isolation from each other.

- (iii) An organisational system has a boundary that determines which parts are internal and which are external.
- (iv) A system does not exist in a vacuum. It receives information, material and energy from other systems as inputs. These inputs undergo a transformation process within the system and leave the system as outputs to other systems.
- (v) An organisation is a dynamic system as it is responsive to its environment. It is vulnerable to changes in its environment such as government policies, new technology, competition in the market, etc.

Systems theory provides a framework to understand interaction between various subsystems and visualise unanticipated consequences of such interaction. With the systems perspective, managers can more easily maintain a balance between the needs of the various parts of the enterprise and the needs and goals of the enterprise as a whole.

Systems approach also facilitates better understanding of the forces in complex environment, that is, the supra system within which the organisation operates.

2.6.2 Criticism of Systems Approach

The systems approach is not free from limitations. It has the following deficiencies :

- (i) The systems approach cannot be considered a unified theory of organisation. This is in no way a unified body of thought. Systems approach fail to take a comprehensive study to analyse the organisations from different angles.
- (ii) The systems approach has failed to specify the nature of interactions and inter dependencies between an organisation and its external environment.
- (iii) The systems approach has failed to spell out the precise relationship between various subsystems.
- (iv) The systems approach does not provide action framework applicable to all types of organisations.
- (v) The systems approach does not offer any tools or techniques for analysis and synthesis of the system and environment.

2.7 CONTINGENCY APPROACH

Contingency approach advocates that managerial actions and organisational design must be appropriate to the given situation and a particular action is valid only under certain conditions. It advocates that the managers should develop situation sensitivity and practical selectivity. In fact, contingency approach has been termed as a common sense approach. Adoption of this approach can be

useful in the formulation of strategies, design of effective organisations, planning information systems, establishing communication and control systems, shaping motivational and leadership approaches, resolving conflicts, managing change, etc.

2.7.1 Contributions of Contingency Approach

Contingency approach is an extension of the systems approach. The basic theme of contingency approach is that organisations have to cope with different situations in different ways. There is no single best way of managing applicable to all situations. In order to be effective, the internal functioning of an organisation must be consistent with the demands of the external environment. The managers must keep the functioning of an organisation in harmony with the needs of its members and the external forces.

Contingency approach highlights the multivariate nature of organisations and explains how organisations operate under varying conditions. With its help, managers can design structures which are highly appropriate to the respective situations. If an organisation is operating in a stable environment, it can have a **mechanistic structure** characterised by high degree of differentiation, centralisation of authority, rigid hierarchical relationships, rules and regulations, etc. But if the environment is dynamic, **organic structure** would be more appropriate. Organic structure is characterised by decentralised decision-making, collaborative relationships, open communication, scope for innovative decision-making, etc.

Based on the above discussion, we can highlight the following contributions of contingency approach :

- (i) Contingency approach is action-oriented as it is directed towards the application of systems concepts and the knowledge gained from other approaches. The contingency approach builds upon this perspective by following in detail on the nature of relationships existing between these parts.
- (ii) Contingency theory attempts to determine the predictable relationships between situations, actions and outcomes.
- (iii) Management should match or 'fit' its approach to the requirements of the particular situation.
- (iv) Contingency approach provides significant contribution in organisational design. It suggests that no organisational design may be suitable for all situations, rather, the suitable design is one determined, keeping in view the requirements of environment, technology, risk and people.

TABLE 3.1 : Systems Approach vs. Contingency Approach

<i>Systems Approach</i>	<i>Contingency Approach</i>
1. It treats all organisations alike irrespective of their size, cultural setting and dynamics.	1. It treats each organisation as a unique entity.
2. It stresses interactions and inter-dependencies among systems and subsystems.	2. It identifies the exact nature of interdependencies and their impact on organisational design and managerial style.
3. It studies organisation at an abstract and philosophical level	3. It is more down-to-earth, pragmatic and action-oriented.
4. It is neutral or non-committal on the validity of classical principles of management.	4. It firmly rejects the blind application of principles regardless of realities of individual situations.
5. It stresses upon the synergetic effect of organisations and the external input.	5. It relates organisation structure and design to the environment.
6. It simply lays down that the organisation interacts with the environment.	6. The impact of environment on the organisation structure and managerial style is the major concern of contingency approach.
7. It provides a theoretical model of understanding the organisation and its subsystems.	7. It stands for down-to-earth action-oriented approach to organisational problems.
8. It suggests deterministic solutions of management problems.	8. It suggests probabilistic and pragmatic solutions of management problems.

2.8 RECENT APPROACHES TO MANAGEMENT

Just-In-Time Manufacturing (JIT)

It is an inventory management strategy to improve return on investment by reducing in process inventory and its associated costs. The system is implemented by the use of visual signals or KANBAN, which tells whether the replenishment is required at any level of production process or not.

Lean Manufacturing

It is a management philosophy which focuses on reduction of seven wastes of overproduction, waiting time, transportation, processing, motion, inventory and scrap in any type of manufacturing process or any type of business. By eliminating waste, quality is improved, production time is reduced and cost is reduced.

Kaizen

It is a Japanese word which means 'change for better' or 'improvement'. It is an approach to improve productivity through application of scientific techniques. The goals of kaizen include elimination of waste (which is defined as those activities which add cost but not value to the product or service), just-in-time delivery, production load levelling of amount and types, standard work, paced moving lines, right sized equipment and others. What is taken apart is usually a process, system, product or service. It is a daily activity which humanizes the workplace, eliminates hard work both physical and mental, teaches people how to do rapid experiments using scientific method and how to learn to see and eliminate waste in business processes.

Six Sigma

It is a data driven approach that can help any organisation—whatever sector or field it might be operating in, to bring down inefficiencies and save time and money by reducing 'quality variations'. It has a strong customer oriented approach that relies on data to create more efficient processes or refine existing processes. There should not be more than 3-4 defects per million opportunities according to prescribed norms. It can be applied to any process but needs unstilted organisational support.

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Chapter

6

Management Functions

Learning Objectives

After studying this chapter, you should be able to :

- Describe managerial functions
- Explain interrelationship between managerial functions
- Describe coordination as the essence of managing
- Appreciate levels of management
- Explain the concept and importance of managerial planning
- Explain the concept and importance of organising
- Define delegation of authority
- Describe the features of formal and informal organisation
- Explain the elements of staffing
- Describe the meaning and importance of controlling
- Highlight the relationship between planning and controlling
- Describe the steps in controlling

Management is a process of effective utilisation of human and other resources for the accomplishment of organisational objectives. G.R. Terry has defined management as "a distinct process consisting of planning, organising, actuating, and controlling performed to determine and accomplish objectives by the use of human beings and other resources." Management is regarded as

process because it involves a series of functions. It does not mean that managerial functions are followed in a specific sequence. In practice, a manager performs all the managerial functions simultaneously to utilise labour, capital, materials, machines and methods effectively for producing goods and services required by the society.



WHY IS MANAGEMENT CALLED A PROCESS?

The manager starts with formulating plans to achieve organisational objectives. He organises the human and non-human resources and leads the human resources for the best possible use of materials, machines, capital, etc. This leads to the production of the required goods and services, and after this, the manager will perform the function of controlling. He will compare the performance of different individuals with the standards of performance already determined and then take corrective actions. Thus, management is a process that involves certain essential functions which are performed continuously to achieve the objectives of the enterprise.

6.1 MANAGERIAL FUNCTIONS

Since various management scholars studied different organisations at different times, they identified the functions of management in their own ways. For instance, Henri Fayol, the father of functional or administrative managements remarked : "To manage is to forecast and plan, to organise, to command, to coordinate and to control" Thus, Fayol classified management functions into five categories as follows :

- (i) to forecast and plan,
- (ii) to organise,
- (iii) to command or to give orders,
- (iv) to co-ordinate, and
- (v) to control.

Luther Gullick offered a list of administrative functions under the catchword "PODSCORB". Each alphabet of this keyword "PODSCORB" stands for the following activities : P for Planning, O for Organisation, D for Directing, S for Staffing, CO for Co-ordinating, R for Reporting, and B for Budgeting.

According to Koontz and O'Donnell, "The most useful method of classifying managerial activities is to group them around the functions of *planning, organising, staffing, directing and controlling*." They think that co-ordination

is not a separate function but is the essence of management. Thus, for the sake of analysis of the management process, we can classify the management functions into the following categories :

1. Planning
2. Organising
3. Staffing
4. Directing
5. Controlling.

An overview of these functions is given below:

6.1.1 Planning

Planning lays down the objectives to be achieved and the step to be followed to achieve them. It is a mental process requiring the use of intellectual faculties, foresight and sound judgement. It involves selecting and relating of facts and making and using of assumptions regarding the future in the visualisation and formation of proposed activities believed necessary to achieve the desired results. It involves deciding in advance what to do, when to do, where to do, how to do and who is to do and how the results are to be evaluated. Thus, planning is the systematic thinking about the ways and the means for the accomplishment of predetermined objectives.

Planning involves the following steps :

- (i) Determination of objectives;
- (ii) Forecasting;
- (iii) Formulation of policies and programmes;
- (iv) Preparation of schedules and procedures; and
- (v) Budgeting.

Planning includes determination of the objectives, policies, rules, programmes, strategies, budgets and procedures. The purpose of planning is to minimise the risk and to make at the same time full advantage of the available opportunities. It bridges the gap from where we are and where we want to go. Good planning is flexible in nature as it can adjust to changes in business conditions. It covers both short-term and long-term periods.

6.1.2 Organising

Organising is an important function of management by which management brings together the human and material resources. This function must be performed when an activity involves two or more persons. Organising involves determining the activities to be done, grouping the activities, assigning the grouped activities to individuals, and creating a structure of authority and responsibility among the people to achieve the objectives of the enterprise.

Urwick defined organising as determining what activities are necessary to achieve any purpose and arranging them in groups which may be necessary to assign to the individuals. The process of organisation involves the determination

of authority and responsibility relations in the organisation. An important function of every manager is to determine the nature of the activities required to attain the group goals, the grouping of these activities and the assignment of the activities to the individuals with necessary delegation of authority.

The process of organisation involves the following steps :

- (a) Determination of objectives;
- (b) Identification and grouping of activities;
- (c) Assignment of duties to individuals; and
- (d) Development of relationships.

6.1.3 Staffing or Human Resource Management

After organising the various activities to be performed, management is in a position to know the manpower requirements of the enterprise at different levels in the organisation structure. After determining the number and types of personnel to be selected to fill different jobs, management proceeds with recruiting, selecting and training the people to fulfil the requirements of the enterprise. In a running enterprise, staffing is a continuous process because new jobs are created in the enterprise and existing employees leave the enterprise.

Staffing comprises of those activities which are essential to keep manned the positions created by the organisation structure. It includes the task of determining the requirements with regard to number and types of people for the jobs to be done, laying down qualifications for various jobs and recruiting, selecting and training people to perform those jobs efficiently.

Staffing is concerned with both managers and non-managers. It is a function performed by managers at all levels. Earlier, staffing was considered a part of organising. But with the recognition of the importance of the human factor in industry and business, it began to be considered as a separate function. Staffing usually includes the following activities :

- (i) Human resource planning.
- (ii) Deciding sources of recruitment.
- (iii) Receiving applications.
- (iv) Testing and interviewing.
- (v) Final selection and appointment letter.
- (vi) Orientation and placement.
- (vii) Training and development.

6.1.4 Directing and Leading

Direction is the process of guiding, supervising, leading and motivating the subordinates to work in a way that is beneficial to the enterprise. The manager not only shows the right path but also leads the subordinates to achieve the objectives of the enterprise. He creates a sense of belongingness, faith and loyalty among the subordinates.

The direction function involves the following four elements :

- (i) **Leadership.** Leadership is the process by which a manager guides and influences the work of others in choosing and attaining specified goals. According to Chester Barnard, leadership is the quality of the behaviour of the individuals whereby they guide people towards the accomplishment of some common goal.
- (ii) **Communication.** A manager has to tell the workers what they are required to do, how to do and when to do it. It has to create an understanding in the minds of the subordinates of work to be done. This is done by the process of communication.
- (iii) **Motivation.** It is the function of a manager to motivate the people working under him to perform the work assigned. A successful manager has to make proper use of motivation to enthuse the people to work harmoniously for the attainment of desired objectives.
- (iv) **Supervision.** Supervision is the process by which conformity between planned and actual results is maintained. Effective supervision ensures greater output of high quality. It teaches the subordinates the way their tasks are to be performed.

6.1.5 Controlling

According to Fayol, "In an undertaking, control consists of verifying whether everything occurs in conformity with the plan adopted, the instructions issued and the principles established." Controlling is that management activity whereby the managers compare actual performance against the planned one, find out the deviations, take corrective action to remove the deviations, incorporate positive deviations in the plans and help ensure the realisation of the specific goals.

In a running concern, planning and control go together because planning seeks to set consistent, integrated and articulated goals or programmes, while control seeks to compel events conform to plans. The most notable feature of the process of control is that it is forward-looking. A manager cannot control the past but can avoid the problems in future by taking actions in the light of past experiences. The control process consists of the following steps :

- (i) Setting up of standards.
- (ii) Measuring performance.
- (iii) Comparing performance with standards.
- (iv) Taking corrective action.

6.2 INTERRELATIONSHIP BETWEEN MANAGERIAL FUNCTIONS

Managing is a continuous process consisting of (i) planning, (ii) organising, (iii) staffing, (iv) directing, and (v) controlling as shown in Fig. 6.1. When a manager reaches the last step, viz., control, his job does not end here. Actually, he will again start with planning on the basis of his past observations and

experience and his projection about the future. One cannot say that a manager will organise only when the job of planning is over or will direct only when the stage of organising is completed. In practice, a manager has to perform these activities simultaneously to achieve the desired objectives.

Thus, for theoretical purposes, it may be convenient to separate management functions, but practically they defy such categorisation. They are highly inseparable. Each function blends into the other functions and affects the performance of others and is also affected by the others. In other words, *the functions of management are interdependent and interrelated*. The interaction between the functions of management has been shown by dotted arrows in Fig. 6.1.

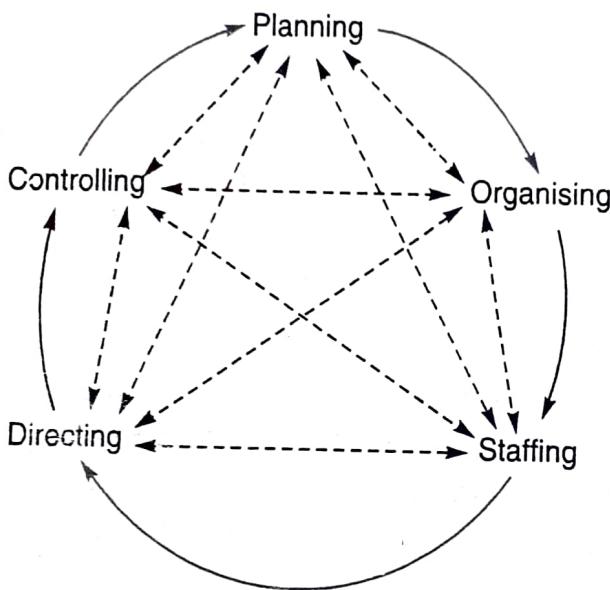


Fig. 6.1. Interrelationship between Management Functions.

6.3 COORDINATION : THE ESSENCE OF MANAGING

Coordination has been viewed by different management experts in different ways. Henri Fayol considers coordination as a *function of manager*. Louis A. Allen also regards coordination as one of the separate managerial functions. James D. Mooney considers coordination as the *first principle of organisation*. Ralph C. Davis looks upon coordination primarily as a *vital phase of controlling*.

6.3.1 Meaning of Coordination

In the words of Mooney and Railey, "Coordination is the orderly arrangement of group efforts to provide unity of action in the pursuit of a common purpose." It is the effort to ensure a smooth interplay of the functions and forces of the different component parts of the organisation to the end that its purpose will be realised with a minimum of friction and a maximum of collaborative effectiveness. In other words, coordination means the orderly synchronisation of efforts of the people working in the organisation for the achievement of organisational objectives.

Coordination is a continuous process for achieving unity of purpose in the organisation. It leads to blending the activities of different individuals and groups for the achievement of certain objectives. The features of coordination are as follows :

- (i) It is an essential managerial activity. It is needed at all levels of management.
- (ii) It involves an orderly arrangement of group efforts.
- (iii) It is a continuous process carried on by the managers.
- (iv) Its purpose is to secure unity of action towards common objectives.

6.3.2 Significance of Coordination

The basic role of a manager in an enterprise is like that of an *orchestra conductor* who directs the activities of the orchestra party in such a way that it produces harmony in music. As a coordinator, the manager performs the function of securing and maintaining unified action throughout the organisation. He directs the activities of the group in such a manner that it brings about harmonious relations and unified action to achieve the given objectives.

In a business enterprise, coordination will lead to the following advantages:

- (i) **Better Results.** Through coordination, duplication of efforts is avoided. The time and energy thus saved are better utilised in creative tasks. This results in total accomplishment which will be far in excess of the sum of the individual parts.
- (ii) **Economy and Efficiency.** Coordination leads to economy and efficiency in the organisation by avoiding wastage of resources and duplication of efforts. Due to coordination, there will be no delays and breakdowns which will further increase efficiency.
- (iii) **Better Utilisation of Human Resources.** Modern organisations employ specialists in diverse fields for better results. Their efforts need to be integrated if the services of such experts are to be utilised fully. Coordination can help in integration of the activities of the experts or specialists.
- (iv) **Meeting Environment Challenges.** The technological, economic, social and political environments of modern business are very complex. Proper coordination of the operations of different departments can help in meeting these challenges effectively.
- (v) **High Morale.** Coordination in organisation and staffing leads to job satisfaction of employees. This improves the morale of different groups. As a result, their loyalty to the organisation is increased. They work whole heartedly for the attainment of the objectives of the organisation.

BOX 2

EXCELLENCE IN COORDINATION

The Dabbawallas of Mumbai is the story of excellence through coordination. The success of the business lies in the complex yet well coordinated exercise that is carried out on the streets of Mumbai day after day. What is the secret behind the efficiency with which their business is conducted?

The story of the dabbawallas begins in the kitchens of Mumbai. After a person step out of his door for work, someone begins the time-consuming process of preparing for him or her a fresh, home-cooked lunch. What happens next demonstrates the coordination of the dabbawallas system. The first dabbawalla picks up the tiffins from the specified homes and takes them to the nearest railway station. The second dabbawalla sorts out the dabbas at the railway station according to them destination and puts them in the luggage carriage. The third one travels with the dabbas to the railway stations nearest to the destinations. The fourth one picks up dabbas from the railway station and drops them off at the respective offices.

By mid-morning, thousands of dabbawallas are bicycling through the streets of Mumbai, ensuring a hot home cooked lunch for their customers. The whole tiffin distribution requires negligible technology. The dabbawallas rely on low capital and use cycles, wooden carriages and local trains to achieve their target. There are several groups that work independently and network with each other to achieve their common goal.

Each area is divided into several small distribution sectors and each sector is handled by a particular person. This person understands the addresses in that locality very well. Also, this perfection comes with practice. Many new employees work for months under the guidance of their seniors.

Punctuality and time management are on top of the agenda for dabbawallas. Whatever be the circumstances, the dabbawallas never get delayed even by a few minutes.

6.3.3 Coordination as Essence of Managing

Co-ordination is an all-inclusive function of management and not just one of its functions. Management seeks to achieve co-ordination by performing various functions like planning, organising, directing and controlling. When all these functions are related to each other harmoniously, co-ordination is achieved. As a matter of fact, co-ordination is the essence of managing.

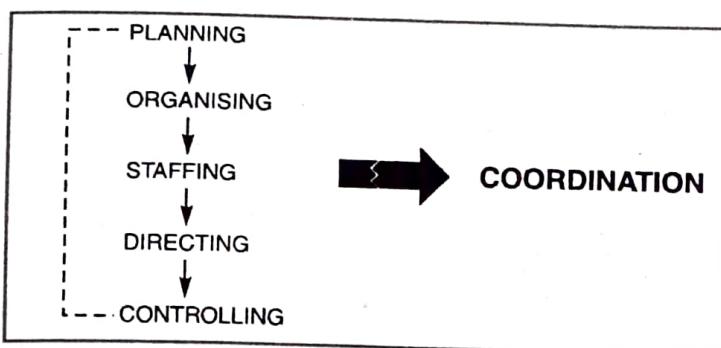


Fig. 6.2. Coordination : The Essence of Managing.

6.3.4 Techniques of Effective Coordination

The following steps should be taken for achieving effective coordination :

- (i) **Clearly Defined Goals** : The goals of the enterprise should be laid down clearly. Every individual in the enterprise should understand the overall objectives and the contribution by his job to these objectives. Unity of purpose is a must for achieving proper coordination.
- (ii) **Clear Lines of Authority and Responsibility** : There is a line of authority in every enterprise which indicates as to who is accountable to whom. The line of authority and responsibility should be clearly defined to achieve coordination. Clear cut authority relationships help in reducing conflicts among different positions (particularly line and staff) which is essential for sound coordination.
- (iii) **Precise and Comprehensive Programmes and Policies** : Laying down well-defined programmes and policies is another measure for achieving effective coordination. This brings uniformity of action because everybody understands the programmes and policies in the same sense.
- (iv) **Cooperation** : Coordination must be accompanied by cooperation. The individuals in the organisation must be willing to help each other voluntarily. Cooperation can be brought about by keeping harmonious relations among the people in the organisation by encouraging informal contacts to supplement formal communication and using committees for exchange of ideas and views at the top level.
- (v) **Effective Communication** : Effective communication is the key to proper coordination. The channels of communication used in the enterprise should be reliable so that they are able to create proper understanding in the minds of the receivers. Personal contacts should be encouraged as it is the most effective means of communication for achieving coordination.
- (vi) **Effective Leadership and Supervision** : Management can achieve better coordination through effective leadership and supervision. Effective leadership ensures coordination both at the planning and the implementing stage. Effective supervision is necessary to guide the activities of individuals in the proper direction.

~~6.4 LEVELS OF MANAGEMENT~~

Management levels signify the hierarchy of management in any organisation. As shown in Fig. 6.3, the managers can be divided into a number of levels depending upon their activities. The number of levels will depend upon the size of business, number of workers and effective span of control.

The hierarchy of management positions from top to bottom is called levels of management. The level of a manager in the hierarchy determines the amount of authority and status enjoyed by him. The supervisory level managers have less authority than middle level managers who have in turn less authority than the top managers.

6.4.1 Classification of Management Levels

For the sake of convenience, the levels of management may be classified into three groups : (1) Top management, (2) Middle management, and (3) Lower or supervisory management.



Fig. 6.3. Hierarchy of Management Levels.

Top Management. Top management lays down policies and objectives of the enterprise. It performs the higher level management functions and takes the policy decisions. Top management includes board of directors and chief executive of the company. In some cases, departmental heads are also taken as a part of top management.

Top management coordinates the affairs of the business and reviews the performance of the middle and lower levels of management. The board of directors is merely a decision-making body and the decisions are implemented through the chief executive of the company. Top management controls the affairs of the enterprise also.

The functions performed by the top management are given below :

1. Laying down broad objectives and policies of the organisation.
2. Taking decisions for the accomplishment of the goals of the enterprise.

3. Coordination of various departments and divisions.
4. Laying down guidelines for the departmental and divisional heads.
5. Making appointments to middle level positions in the company organisation, such as Divisional Managers, Secretary, Departmental Heads, etc.
6. Reviewing the work of executives at different levels to ensure that their performance is in accordance with the objectives laid down.

Middle Management. Middle management consists of heads of various departments. The job of middle level managers is to organise their departments to implement the top management's policies. They are responsible for the results in their areas. They also perform the management functions of planning, organising, staffing, directing and controlling. They issue the instructions to the first level management. They serve as the channel of communication between the top and lower management.

The functions of middle level managers are given below :

1. Planning for the execution of policies and programmes of top management.
2. Analysing the achievements of lower levels in the light of various plans and programmes.
3. Discussing the solutions of current problems and proceeding further with their results.
4. Appraising the performance of subunits.
5. Guidance and motivation of supervisory personnel.
6. Achieving coordination between different sections or units.

Lower or Supervisory Management. Lower or operative management consists of foremen, supervisors, office superintendents, etc., who are engaged with the direction of the operative employees. The managers at this level are in direct contact with the operative employees. They are more concerned with direction and control functions as compared to planning and organisation functions of management.

First line supervisors serve as an important link between the management and the workers. They implement the top management policies and provide feedback to the higher levels of management. The lower level managers plan the day-to-day activities and assign tasks to their subordinates, guide them and take corrective steps whenever necessary.

The functions of first-line management or supervisors are given below :

1. To supervise and guide the operative workforce.
2. To plan and organise the activities of the group.
3. To arrange for necessary materials, machine tools, etc., for workers and to provide them the necessary working environment.
4. To provide training to the workers.
5. To solve problems of the workers.
6. To communicate workers' problems to the higher level management.

6.5 MANAGERIAL PLANNING

6.5.1 Definition of Planning

Planning is a primary function of management that is intellectual in nature. It is the process of thinking before doing and making plans for the organisation. *A plan is a course of action for the future. Planning is the process of determination of a course of action to achieve the desired goals or objectives.*

Planning is deciding in advance as regards the following issues :

- (i) What is to be done? i.e., determination of objectives.
- (ii) How is to be done? i.e., determination of objectives.
- (iii) Where is it to be done?
- (iv) When is it to be done?
- (v) By whom is to be done?

For instance, an industrial firm wants to introduce a beauty soap in the market. Thus, the objectives is to achieve certain sales target during the year. The means to pursue this objective may be advertising, sales promotion, door to door selling, etc. Further it may be decided to launch the product in big cities only and that too during summer season. The charge of the whole project may be given to the Marketing Manager who will divide various activities among his staff. If this project plan is successfully implemented, it would lead to achievement of objectives. In other words, planning bridges the gap between where we are (present position) to where we want to go (future position) of objective as shown in Fig. 6.4.

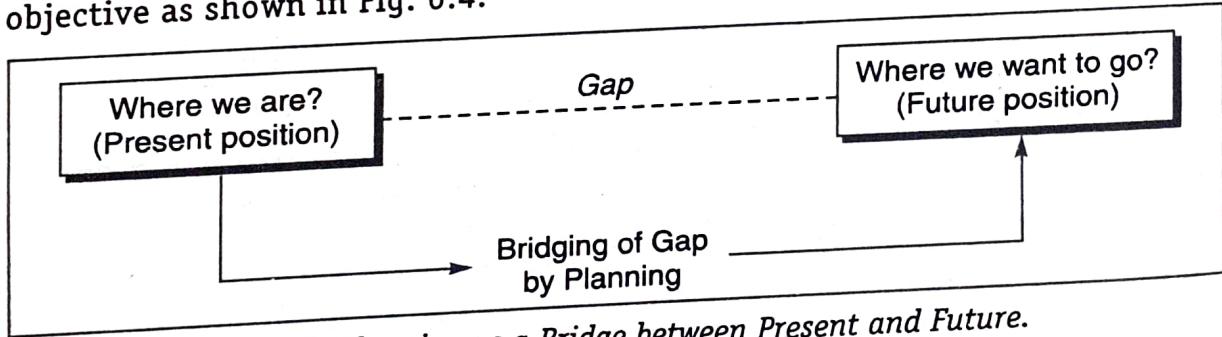


Fig 6.4. Planning as a Bridge between Present and Future.

6.5.2 Significance of Planning

Planning provides the foundation for efficient management of the business enterprise. The importance of planning would be more clear after studying its objectives :

- (i) **Reduction of Uncertainty.** Planning involves forecasting or anticipation of future events. This helps to reduce uncertainty for the business. It may be noted that uncertainties may be caused by changes in technology, taste and fashion of the people, and other business conditions. Sufficient provision can be made in the plans to meet these uncertainties.

- (ii) **Focus on Meaningful Activities.** Effective planning lays down various courses of action which are useful in the accomplishment of objectives. The chances of wasteful and unproductive activities are reduced to a great extent. Planning makes it clear for the employees working at different levels as to how their operations can contribute to be organisational objectives.
- (iii) **Economy in Operations.** Efficient planning secures economy. Through proper allocation of resources to various operations, it helps in their optimum utilisation. This leads to economy in operation. Planning also avoids wastage of resources by eliminating unnecessary activities in the enterprise.
- (iv) **Improvement of Efficiency.** Planning determines as to when and how various tasks are to be performed by the different departments. This brings about efficiency in the working of various departments. Wastages are reduced and needless efforts are avoided by advance planning.
- (v) **Facilitates Decision-Making.** Planning is an intellectual activity. Preparation of a plan involves collection of data, identification of alternatives and selecting the best alternative. Thus, decision-making is inherent in planning. Effective planning can also help in taking decisions about type of organisation, supervision, incentives and communication.
- (vi) **Achieves Coordination.** Planning revolves around organisational objectives. All the activities are planned towards the objectives. There is an integrated effort throughout the enterprise. It will avoid duplication of efforts. Thus, there will be better coordination in the enterprise. All the departments will cooperate with each other for the accomplishment of enterprise objectives.
- (vii) **Promotes Creativity.** Planning is basically the thinking function of management. It helps innovative and creative thinking. Many new ideas come to the mind of a manager when he is planning. Thus, planning promotes creativity and innovation.

6.5.3 Steps in Planning Process

The process of planning involves seven steps as shown in Fig. 6.5. These steps are explained below :

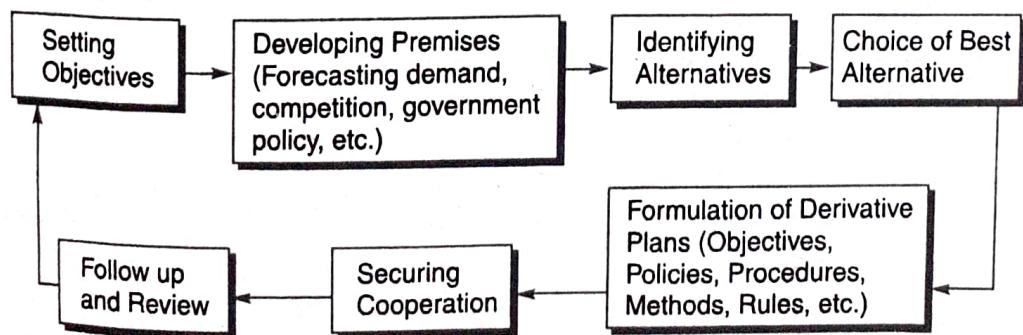


Fig. 6.5. Steps in the Process of Planning.

- 1. Setting Objectives.** The first step in the planning process is the establishment of objectives which will serve as the basis of planning. Specific objectives have to be laid down which can be achieved with the help of policies, procedures, rules, budgets, programmes and strategies.
- 2. Developing planning Premises.** Planning involves certain assumptions about the future which are known as planning premises. Planning premises are assumptions about the likely shape of events in the future. They serve as the basis of planning. In order to make effective plans, it is essential that the planning premises are based on systematic forecasting. Assessment of future demand, taste of customers, competition in the market, etc., can be made with the help of forecasting.
- 3. Identifying Alternatives.** Search of alternative plans or courses of action is an important step in planning. Generally, there are several alternatives for any problem. The manager should try to screen out the most unviable alternatives so that he has as small number of alternatives for final selection. This will help in the thorough analysis of the alternatives so developed.
- 4. Choice of Best Alternative.** The alternative generated at the previous stage are evaluated in the light of objectives, costs involved, availability of capital, materials and personnel, etc. The merits and demerits of each alternative are considered. The most beneficial alternative should be chosen and adopted as a plan for the enterprise.
- 5. Formulation of Derivative Plans.** After choosing a particular plan, it is put into practice by the formulation of derivative plans such as policies, procedures, schedules, methods, budgets, etc. Derivative plans are the *subsidiary plans* formulated for various departments, sections or activities in the light of the master plan to help the organisation to achieve its objectives in a unified manner. For example, an entrepreneur decides to manufacture refrigerators using Japanese technology. He must formulate derivative plans for procurement of technology, import of technology, location of plant, recruitment of staff, capital, creation of sales and distribution network, etc.
- 6. Communication of Plans and Securing Cooperation.** The plan and the derivative plans should be properly communicated to the lower levels in the organisation. It is also significant to secure the cooperation of those concerned with their implementation.
- 7. Follow up and Review.** Planning is a continuous process and so is its appraisal or review. Continuous review of plans would help to detect deficiencies of the plan and the planning process. This can act as the basis of improving the existing plans and introducing new plans in the future.

BOX 3

STEPS IN PLANNING

1. Setting the Objectives of Planning.
2. Developing Premises for Planning.
3. Identifying Alternatives.
4. Choice of the Best Alternative.
5. Formulation of Derivative Plans.
6. Communication of Plans and Securing Cooperation.
7. Follow-up and Review.

6.5.4 Requirements of a Good Plan

A good plan should possess the following qualities or features :

- (i) **The plan should be simple.** A plan to be effective should be simple to be understood and worked upon by different individuals and groups.
- (ii) **The plan should be specific rather than general.** The more explicit it is, the less chance there is for it to be misinterpreted. Objectives and goals should be clearly defined. The means for carrying out the plan should also be indicated.
- (iii) **The plan should be logical and practical.** The more fact it is based on the better it is. If facts are not available, the reasonable assumptions must be made.
- (iv) **The plan must be flexible in nature.** No plan can cover all possible contingencies. Conditions under which a business operates keep on changing. So planning must be flexible. It must not be rigid. It should enable the management to take care of changes in the environment.
- (v) **The plan must be capable of being controlled.** Effective planning of business activities depends upon the ability to foresee with almost accuracy the nature and requirements of future events relating to industry in general and the business undertaking in particular. Therefore, the plan must distinguish between controllable and uncontrollable future conditions.
- (vi) **The plan should be stable.** This means that the basic features of the plan should not be discarded or modified substantially because of changes in external factors.
- (vii) **The plan must be complete and integrated.** A plan is said to be complete when it is comprehensive enough to cover all actions expected from the individuals and sections of the undertaking as a whole. The plan is an integrated one when the various administrative sub-plans are assembled into one another that the whole enterprise operates efficiently.

6.6 ORGANISING

6.6.1 Meaning of Organising

Organising is an important function of management concerned with bringing together various resources (namely, men and women, machines, materials, methods and money) and establishing relationship among them for the accomplishment of specific objectives. It is through organising that management brings together human, physical and financial resources to form manageable units known as departments or division. In other words, organising is concerned with creating a structure of relationship for the efficient use of various resources.

The term 'organising' is often used in two senses : (i) as a structure and (ii) as a process. Now we shall discuss these concepts.

As a Structure. In simple words, organising is a structure of relationship between various jobs or positions in the organisation. According to B.O. Wheeler, "*Organising is the structural framework of duties and responsibilities of personnel in performing various functions within the enterprise.*" Organising structure can be shown with the help of an organising chart which reveals formal (or official) relationships between various people in the organisation. In fact, organising structure is created to clarify authority and responsibility of different positions throughout the enterprise.

As a Process. Organising is concerned with arranging the activities of the organisational members in a logical manner. It allocates work among the individuals. In other words, organising is a process by which management coordinates the operations of the members of an enterprise for the accomplishment of given objectives.

6.6.2 Nature of Organisation

The broad features of organising which clarify its nature are discussed as under :

- (i) **Organising is a Basic Function of Management.** It is essential for the achievement of organisational objectives. Organising is done in relation to all other functions of management, namely, purchasing, production, marketing, financing, personnel, etc. The organising function is performed by all the managers.
- (ii) **Organising is Based on Objectives.** Whether it is organisation of the entire enterprise or a part of it, organising is influenced by objectives. The operations are divided into suitable jobs and authority and responsibility relationships are determined to achieve the predetermined objectives.
- (iii) **Organisation Connotes a Structure of Relationship.** The structure of relationships created by the management is referred to as '*formal organisation*'. But an organisation also includes the network of social relationships that arise between people working together. Such relationship are known as '*informal organisation*'. The study of both formal and informal relationships is necessary to understand the nature of any organisation.

- (iv) **Organising is a Process.** It is not a one step function. Managers are continuously engaged in organising and re-organising. The process of organising involves a number of steps such as identifying and grouping of activities into jobs, assigning jobs to individuals and creating authority responsibility relationship. In the words of Theo Haiman. "Organising is a process of identifying and grouping the activities of the enterprise and establishing authority relationship among them."

6.6.3 Importance of Organisation

The benefits of a sound organisation are discussed below :

- (i) **Specialisation.** Organisation is based on division of work which leads to specialisation. In other words, jobs are created which require special qualifications, training and aptitude. People are appointed on the basis of their area of specialisation. This would lead to efficiency in performance and better quality.
- (ii) **Role Clarity.** Organisation leads to creation of jobs and their assignment to competent people. All the managerial and operative jobs are clearly defined and differentiated. This helps each job-holder to know what roles he has to play to discharge his job duties.
- (iii) **Clear Lines of Authority and Responsibility.** Organisation helps in creating well defined job and also clarifying the limits of authority and responsibility of each job. Thus, everybody working in the organisation knows the amount of authority and responsibility associated with his job. This would help in reducing conflicts over use of authority by different people in the enterprise.
- (iv) **Avoidance of Duplication of Efforts.** Organisation leads to creation of distinct jobs and departments by systematic division of various activities. This would help in avoiding duplication of efforts and overlapping of duties among various individuals and departments.
- (v) **Better Coordination and Communication.** Organisation is an important means of bringing coordination among the various departments of the enterprise. It creates clear cut relationship between the departments and helps in laying down balanced emphasis on various activities. It also provides for the channels of communication for the coordination of the activities of different departments.
- (vi) **Adaptation to New Technology.** Sound organisation structure is flexible and gives adequate scope for the introduction of new technology. It helps in introducing changes in the enterprise by modifying the jobs and authority and responsibility. Such adaptability facilitates maximum benefit from the use of technological innovations.
- (vii) **Efficient Management.** Organisation is a tool of efficient management. It helps the manager in developing jobs and departments, assignment of jobs to individuals and creation of structure for the effective utilisation of various resources to produce the desired goods and services. Organisation also provides the framework for the performance of other managerial functions, i.e., planning, staffing, directing and controlling.

6.6.4 Steps in the Process of Organising

Organising involves the following steps :

- (i) **Division of Activities.** The total activities or work of the organisation is divided into major functional activities and each such functional activity is further sub-divided into different jobs. Division of work is essential because entire work cannot be done by one individual. Each job consists of certain related tasks to be carried out by the job-holder. Division of work certain out to do all work systematically and to facilitate specialisation in the organisation. This would also increase the efficiency of the firm.
- (ii) **Creation of Jobs and Departments.** Various jobs created at the first stage are classified into specified categories like production, purchasing, marketing, financing, personnel, etc. Based on this classification, all related jobs are clubbed together to create departments or divisions. For instance, in a manufacturing organisation, production department is composed of several jobs such as production manager, superintendent, supervisors, foremen, workers, attendants, etc. The duties associated with each job are clearly laid down to ensure that no operation is left out and there is no duplication of efforts.
- (iii) **Assignment of Jobs to Suitable Individuals.** This step involves assigning different jobs in various departments to suitable and qualified persons. There must be a proper match between job requirements and capabilities of individuals being placed on different jobs. This would ensure efficiency of operations and also fix responsibility of each job-holder.
- (iv) **Establishing Authority Relationship.** Authority must be granted to the persons who have been entrusted with the responsibility of doing certain jobs. There should be a clear definition for authority and responsibility associated with each job. Every person should be clear in his mind as to whom he is accountable or answerable for the performance of his job. This leads to the creation of a structure of various positions arranged in a hierarchy or chain of command from top management to operative level.

6.7 DELEGATION OF AUTHORITY

Delegation means the assignment of work to others and conferring them the requisite authority to accomplish the work assigned. It enables the managers to distribute their load of work to others and concentrate on important functions which only they can perform better. Thus, delegation is based on the principle of sharing of work between the superior and the subordinate.

The process of delegation of authority comprises the following three components or steps :

- (i) entrustment of responsibility (duties or work) to the subordinate for performance;
- (ii) granting of authority to make use of resources and take necessary decisions for carrying out the responsibility; and
- (iii) creation of accountability on the part of the subordinate to report to the superior.

The above elements of delegation are discussed below :

TABLE 6.1 : Comparison of Authority and Responsibility

Basis	Authority	Responsibility
1. Definition	It is the right of a manager to command his subordinates.	It is the duty of a subordinate to perform the jobs assigned to him by his boss.
2. Origin	Authority arises because of a formal position in the organisation. Whosoever occupies the position, has the right to command the subordinates.	Responsibility arises from a superior-subordinate relationship. The sub-ordinate is accountable since he owes an explanation to his superior for the performance of duties assigned.
3. Delegation	Authority can be delegated to the subordinates.	Responsibility cannot be delegated. It is absolute.
4. Direction of Flow	Authority always flows downwards from a superior to his subordinate.	Accountability always moves in upward direction as the subordinate is responsible to his superior.

Authority can be Delegated but Responsibility Cannot be Delegated.

Here, the term 'responsibility' is used in the sense of accountability for the use of authority. Accountability arises because of delegation of authority. The person who has been granted authority should use such authority properly and be responsible to the superior. He cannot avoid responsibility as accountability cannot be delegated to the lower levels. In fact, accountability to the superior is absolute as it is an integral part of delegation of authority.

6.7.1 Guidelines/Essentials of Effective Delegation

- (i) Duties should be assigned in terms of well-defined results.
- (ii) Limits of authority should be well-defined.

- (iii) Authority and responsibility should be coextensive.
- (iv) There should be effective communication between the superior and the subordinate.
- (v) The executives should learn to have faith in their subordinates.
- (vi) The subordinates should play an active role. They should not shirk responsibility.
- (vii) The principles of delegation of authority should be properly followed.

6.7.2 Decentralisation of Authority

Decentralisation of authority means dispersal of authority to take decisions to the lower levels of the organisation where the problem arises. Decentralisation implies reservation of some authority (*i.e.*, power to plan, organise, direct and control) with the top level management and transfer rest of the authority to lower levels in the organisation. In other words, executives at the lower levels are empowered to take decisions as regards the problems they face. They need not go to higher levels for taking decisions.

Decentralisation is the extension of delegation of authority and so is wider in scope and coverage. Whereas delegation means entrustment of responsibility and from one individual to another, decentralisation means scattering of authority throughout the organisation. Delegation takes place from one person to another and is a complete process. But decentralisation takes place only when the maximum possible delegation is made to all or most of the people in the organisation. This can be explained with the help of the following example.

6.8 FORMAL AND INFORMAL ORGANISATION

6.8.1 Formal Organisation

Formal organisation refers to the structure of well-defined jobs, each bearing a definite measure of authority, responsibility and accountability. The structure is consciously designed to enable the people of the organisation to work together in accomplishing the common objectives. Thus, formal organisation is more or less an arbitrary structure to which an individual must adjust. It tells him to do certain things in a specified manner, to obey orders from designated individuals, and to work cooperatively with others. Coordination also proceeds according to a prescribed pattern in the formal organisation structure.

Features. The basic characteristics of formal organisation are listed below :

- (i) Organisation structure is predetermined by the top management.
- (ii) Organisation structure is based on division of labour and specialisation.

- (iii) The structure is based on the jobs to be performed and not according to the individuals who are to perform jobs.
- (iv) The organisation does not take into consideration emotional aspect.
- (v) The authority and responsibility relationships created by the organisation structure are to be honoured by everyone.

6.8.2 Informal Organisation

Informal organisation refers to the relationships between the people in the organisation based on personal attitudes, emotions, prejudices, likes, dislikes, etc. These relations are not in terms of procedures and regulations laid down in the formal organisation. Generally, large formal groups give rise to small informal or social groups. These groups may be based on same taste, language, culture or some other factor. These groups are not preplanned. They develop automatically within the organisation according to the environment in the organisation.

Features. The salient features of informal organisation are listed below :

- (i) Informal relations are unplanned. They arise spontaneously.
- (ii) Formation of informal organisations is a natural process.
- (iii) Informal organisation reflects human relationship.
- (iv) Informal organisations are based on common taste, problem, language, religion, culture, etc.
- (v) The membership of informal organisations is voluntary.

Significance of Informal Organisation. The importance of informal organisation arises from the functions performed by informal groups. The important functions of informal organisation are as under :

- (i) It serves as a very useful channel of communication in the organisation. The informal communication is very fast.
- (ii) It blends with the formal organisation to make it more effective. It gives support to the formal organisation.
- (iii) The informal leader lightens the burden of the formal manager and tries to fill in the gaps in the manager's abilities.
- (iv) Informal organisation gives psychological satisfaction to the members. They get a platform to express their feelings.
- (v) The presence of informal organisation encourages the manager to plan and act carefully.

TABLE 6.2 : Comparison of Formal Organisation and Informal Organisation

S.No.	<i>Formal Organisation</i>	<i>Informal Organisation</i>
1.	It is created to achieve pre-determined objectives.	It has no predetermined objectives.
2.	It is an official hierarchy of relations between various positions.	Its structure is based on human emotions and sentiments.
3.	It refers to the structure of well defined authority and responsibility relationship.	It refers to the personal relationships which develop automatically when people work together.
4.	Formal relations are well planned and are created deliberately.	Informal relations are unplanned and they originate automatically.
5.	Formal organisation follows the official chain command which cannot be changed. Communication has to follow channels.	Informal organisation does not have a fixed chain of command. It is based on the sentiments of the members. There are no fixed patterns of communication.
6.	Formal organisation is usually stable.	Informal organisation does not last so long.
7.	Formal organisation reflects technological aspect.	Informal organisation reflects human aspect. It is based on attitudes, likes and dislikes, tastes, language, etc. of the people.

6.9 STAFFING

6.9.1 Meaning of Staffing

The term 'staffing' may be defined as the process of procurement and development of required number of persons to fill various positions or jobs in the organisation. *The staffing function of management pertains to recruitment, selection, training, development, appraisal, and remuneration of personnel.* It is the duty of every manager to perform this function.

The features of the staffing function of management are as follows :

- (i) Staffing is an important function of management.
- (ii) The basic concern of staffing is management of manpower or human resources.
- (iii) Staffing helps in getting right types of persons on right jobs.
- (iv) Staffing is a pervasive function. It is performed by the managers at all levels of management.

BOX 4

NEED AND IMPORTANCE OF STAFFING

- To ensure efficient performance of planning, organising, directing and controlling functions of management.
- To ensure effective use of technology and other physical resources.
- To ensure optimum utilisation of human resources.
- To develop human capital.
- To motivate human resources for better performance.
- To develop higher employee morale.

6.9.2 Elements of Staffing

The efficient performance of staffing involves the following activities or steps :

1. **Manpower Planning.** This is the first step in the process of staffing. It is concerned with determining the number and types of staff required for the organisation
2. **Employment of Personnel.** It involves recruitment and selection of personnel as needed in the organisation. Recruitment refers to identification of the sources of manpower availability and making of efforts to secure applicants for the various job positions in the organisation.
Selection is the process of choosing and appointing the right candidates for various jobs in the organisation. It includes receiving and screening of applications, employment tests, interview and medical examination of candidates.
3. **Placement.** When a new employee reports for duty, he is to be placed on the job for which he is best suited. Placement is a very important process as it can ensure 'right person doing the right job'. If a new employee is not able to adjust on his job, he may be given some training or transferred to some other job.
4. **Induction.** Induction is concerned with the process of introducing or orienting a new employee to the organisation. The new employees are familiarised with their units, supervisors and fellow employees. They are also to be informed about the working hours, tea or coffee breaks, lunch period, procedure for availing leaves, safety precautions, medical facilities, transport facilities, etc.
5. **Training.** Systematic training helps in increasing the skills and knowledge of employees in doing their job. Various methods of training can be used to enhance the knowledge and skills of the employees. On-the-job methods are more useful for the operative employees and off-the-job methods can also be employed for the supervisor personnel.

6. **Compensation.** Remuneration of workers involves fixation of their wages and salaries depending upon their level, nature of work, degree of risk involved, etc.
7. **Performance Appraisal.** It is concerned with the rating or evaluation of the performance of the employees. Transfer and promotion of the staff are based on performance appraisal.

6.10 MANAGERIAL CONTROL

6.10.1 Concept and Features of Control

In the words of Henri Fayol, "*Control consists in verifying whether everything occurs in conformity with the plans adopted, the instructions issued and the principles established. It has for its object to point out weaknesses and errors in order to rectify them and prevent recurrence.*"

According to E.F.L. Breach "*Controlling is the process of checking actual performance against the standards or plans with a view to ensuring adequate progress or satisfactory performance and also recording such experience as is gain as a contribution to possible future needs.*"

Controlling is the process through which managers ensure that the actual activities conform to the planned activities. It involves verifying whether activities undertaken are in conformity with the plans adopted, instructions issued and results expected. In other words, it is through control that managers ensure the execution of plans and achievement of goals.

The features of controlling are as under :

- (i) **Dynamic Process.** Control is a dynamic process. Various systems of control are subject to change according to the changing conditions and requirements of the enterprise.
- (ii) **Pervasive Function.** Control is performed by the managers at all levels from top to bottom. However, its nature and extent differ according to the level of management.
- (iii) **Forward Looking.** Effective control is always forward looking because past cannot be controlled. When deviations from the standards are pointed out, those serve as a guide to future improvements.
- (iv) **Action-oriented.** Different systems of control provide feedback information to the concerned managers. This would help in taking appropriate action.

6.10.2 Importance of Controlling

A good control system helps an organization in the following ways :

1. **Accomplishing organisational goals.** The controlling function is an essential pre-requisite for an efficient and effective execution of pre-determined plans. It helps in (a) identifying deviations, (b) pinpointing the factors responsible for them, and (c) taking quick remedial action.

2. **Aid to Delegation.** Control can be meaningful only when it is preceded by proper assignment of duties and delegation of authority. Thus, it necessitates delegation of authority to the workers at lower levels, such that they develop a sense of involvement in the functioning of the enterprise.
3. **Facilitates Coordination.** Control facilitates effective co-ordination of the operations of various individuals. It keeps all activities and efforts directed towards the achievement of goals in conformity with plans and programmes. All the departments and individuals are governed by standards of performance and goals laid down in the plans. This results in work being performed efficiently and in proper order.
4. **Judging Accuracy of Standards.** Through controlling, a manager can easily judge whether the standards or targets set are accurate or not. An accurate control system revises standards from time to time to match them with environmental changes.
5. **Improving Employee Motivation.** An effective control system communicates the goals and standards of appraisal for employees to subordinates well in advance. This improves their motivation.
6. **Making Efficient use of Resources.** By exercising control, a manager seeks to reduce wastage and spoilage of resources. Each activity is performed in accordance with predetermined standards and norms. This ensures that resources are used in the most effective and efficient manner.
7. **Ensuring Order and Discipline.** Controlling creates an atmosphere of order and discipline in the organisation. It helps to minimize dishonest behaviour on the part of the employees by keeping a close check on their activities.

6.10.3 Relationship Between Planning and Controlling

It is not possible to think of an effective system of control without the existence of well thoughtout plans. Controlling presupposes the existence of plans. A manager cannot know whether his subordinates are working in the desired direction in the absence of certain standards of performance. The standards of performance are provided by the planning. If efficient standards are not set, it will be very difficult to achieve an effective system of control. Similarly, a good system of control points out the limitations of planning and makes suggestions for the improvement of planning.

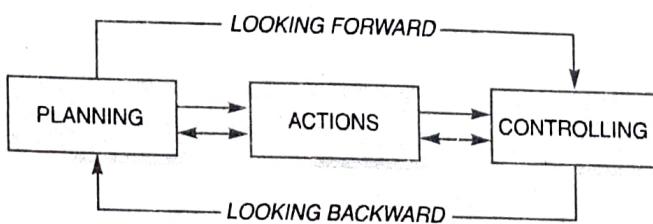


Fig. 6.6. Relation between Planning and Controlling.

In short, planning and controlling are interrelated they reinforce each other in the sense that :

In short, planning and controlling are interrelated they reinforce each other in the sense that :

- (a) Planning based on standard makes controlling easier and effective.
- (b) Controlling improves future planning by providing information derived from past experience.

6.10.4 Steps in Controlling

The essential elements or steps of any control system are : (1) Establishment of standards; (2) Measurement of performance; (3) Comparing performance with the standards ; (4) Analysing deviations; and (5) Taking corrective action. These steps are discussed below :

1. Establishment of Standards. The first step in the control process is the setting up of standards of performance. Standards represent criteria for measuring performance. Standards should be set precisely and preferably in quantitative terms. The standards should be accurate and workable. Standards should have practical significance. They should not be based merely on past performance or guess work. They should be evolved logically on the basis of systematic analysis.

2. Measurement of Actual Performance. The second step is to measure actual performance of various individuals, groups or units. Management should measure the performance and compare it with standards. The quantitative measurement should be done in cases where standards have been set in numerical terms. This will make the evaluation easy and simple.

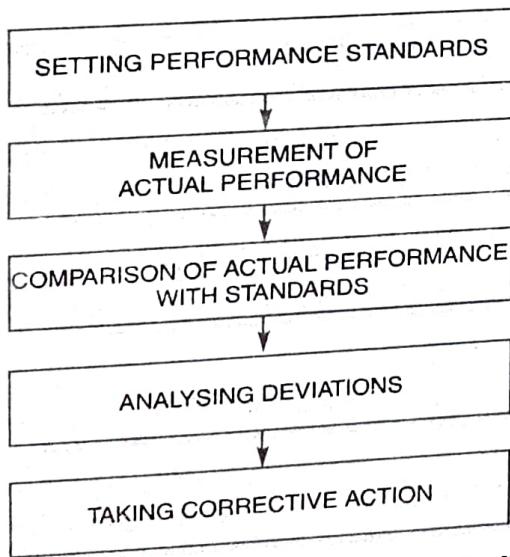


Fig. 6.7. Steps in the Process of Controlling.

3. Comparing Performance with Standards. Comparing of actual performance with predetermined standards is an important step in control process. The evaluation will reveal some deviations from the set standards. The evaluator should point out the defects or deficiencies in performance and investigate the causes responsible for these.

4. Analysing Deviations. All deviations need not be brought to the notice of top management. A range of deviations should be established and only cases beyond this range should be brought to the knowledge of top level management. They must divide the deviations in two categories deviations which need to be attended urgently in one category and minor or insignificant decisions in other category.

5. Taking Corrective Action. The last step in the control process is taking corrective actions so that deviations may not occur again. This will involve taking certain decisions by the management like replanning or redrawing of goals or standards, reassignment or clarification of duties. It may also necessitate reforming the process of selection and training of workers. Thus, controlling may lead to change in all the managerial functions. Some example of corrective action have been given in Table 6.3.

TABLE 6.3 : Example of Corrective Action

<i>Cause of Deviation</i>	<i>Corrective Action</i>
1. Defective material	Change the quality specifications of the material used
2. Defective machinery	Repair the machine or replace the machine if it cannot be repaired
3. Obsolete machinery	Technological upgradation of machinery or installation of new model.
4. Defective process	Modify the existing process
5. Poor physical conditions of work	Improve the physical conditions of work

Critical Point Control. It is neither economical nor easy to keep a check on each and every activity in an organisation. Control should, therefore, focus on key result areas (KRAs) which are critical to the success of an organisation. These KRAs are set as the critical points. If anything goes wrong at the critical points, the entire organisation suffers. For instance, in a manufacturing organisation, an increase of 5 percent in the labour cost may be more troublesome than a 15 percent increase in postal charges.

Management by Exception. Management by exception which is often referred to as control by exception is an important principle of managerial control. It is based on the belief that an attempt to control everything results in controlling nothing. Thus, only significant deviations which go beyond the permissible limit should be brought to the notice of management. Thus, if the plans lay down five percent increase in labour cost as an acceptable range of deviation in a manufacturing organisation, only increase in labour cost beyond five percent should be brought to the notice of the management. However, in case of major deviation from the standard (say, 5 percent), the matter has to receive immediate action of management on a priority basis, it being a critical area of business.