Unit - 3 Significance and Principles of Effective Management

Structure of Unit

3.0 Objectives

After completing this unit you must be able to :

- Discuss the significance management to business, industry and national economy.
- State the major qualities of a good manager.
- Elaborate general administrative principles given by Henry Fayol.
- Critically examine F.W. taylors scientific management.

3.1 Introduction

As it is said by few philosophers, those things that do not change, loses its existence, it is equally applicable to the study of an organization. Furthermore even experts in the field of management do not have conciliation for the concrete definition, and concept of management. It is because of the fact that the field is so versatile, organic and complex that one cannot study it from one perspective or even few. Principles, rules and guidance of the field of management is so versatile that we find its pervasiveness everywhere. They guide in probably all the situations, but their interpretation keep on changing in every such situation and from person to person. Management, as a unique field of study, is a synergy of economics, political science, human psychology, anthropology, operation research and statistics as well as sociology. Therefore it is to be understood from all these perspectives. The study becomes more dynamic since it is applicable in a vibrant, ever changing and complex environment.

3.2 Significance and Importance of Management to The Business, Industry, Society & Economy

Introduction: For correct application of the management principles, study of commerce, economics, sociology, psychology and mathematics is very essential. For better discipline in the whole organisation, management must adopt an inter-disciplinary approach which is very essential due to complexity of business organisation. The principles of management have universal application, Business organisation, industry, trade, commerce, educational, religious, charitable, political and social institutions etc. can be run successfully and efficiently by applying modern principles and techniques of management everywhere. Scientific methodology must be adopted while applying management principles. Management must concentrate on human relations and follow quantitative technique for productivity as well. The technique of management can be improved by proper research and development. Due to fast changes within and

outside the business organisations, improved and appropriate techniques of management must be developed through research. Proper outcome of all the management areas and their functions can lead the organisation to the everest of alround success.

Following points will elaborate the importance.

1. **Management Meets the Challenges of Changes:** In the era of globalisation, liberalisation, computerisation, privatisation and multinationals, fast and growing changes are taking place. In recent years the challenge of change has become intense and critical. This challenge of changes can be met by professional and efficient management only. Complexities of modern business can be overcome only by scientific management.
2. **Effective, efficient and profitable utilisation of the seven M's:** In this era two M's (Methods, Markets) are added to traditional M's i.e. men, materials, money, machines and management. Among all these seven, management stands at the top. It determines and controls all other factors of business, and manages them for achieving the predetermined objectives and goals of the organisation.
3. **Development of resources:** Good management always tries for development of other resources. It produces good business by creating a vital, dynamic and life giving force in the organisation.
4. **Management directs the organisation:** Role of management as a director is very important. For instance, mind directs and controls the body to fulfill its desires, like wise management directs and controls all the organs of organisation to achieve the desired goals.
5. **Management integrates various interests:** Business organisation activities are carried out by working groups, involving a number of individuals. There are various interest groups and they put pressure over other groups for maximum share in the total output. Management balances these pressures and integrates various interests. Interest of the business organisation and that of the individuals is integrated by the management in such a way, that interests of both the parties are achieved. As a result both the parties are satisfied and work together happily in the organisation.
6. **Management provides stability:** Smooth and continuous running of business organisation depends upon the efficiency of management. Degree of stability of any organisation is positively correlated with the degree of efficiency shown and adopted by the management. It is necessary to change and modify the resources in accordance with the changing environment of the society. If the business enterprises do not change according to the changing environment, their stability may be in danger.
7. **Management provides innovation:** Innovation is a must for business and industry. Otherwise it becomes rigid and outdated. Innovation requires new ideas, improved or new suggestions, new dimension, new vision, excellent imagination etc. All this is provided by management, which makes the business and industry modern, live and dynamic.
8. **Management provides coordination and establishes team spirit:** In an organisation, different activities are performed by different departments. A large number of activities are going on continuously and/or simultaneously in a business enterprise. The management only, has to coordinate all these activities and establish team-spirit among the working groups. Coordination in activities, maintaining and establishing team spirit, is a great task to be done by management alone.
9. **Management tackles business problems:** Management is the only instrument with the enterprise to tackle all sorts of problems of business enterprises. Management possesses the skill for tackling the variety of problems. It very well knows how to face the critical problems of the organisation like competition of technology, problem of marketing, problem of human resources, physical resources, financial resources and so on. It provides a tool for the best way of doing a task.

10. **Management is a tool of personality development :** Management attempts to improve the personality of personnel. Management is not only for the direction of things but the development of men also. Management is always searching new ways and means for developing the personality of the employees. It tries to develop alround personality of employees through education training. It also attempts how to raise their efficiency and productivity. Managements' contribution in personality development of employees is indispensable.

11. **Importance of management in India's developing economy :** Our country is a developing country. Role of management in such situations and circumstances is very important. Total economics of a nation depends upon how the managers are giving their honest and loyal contribution for it. We have a small number of managers. Added to this is scarcity of professional managers as well as experienced managers. There is a great demand for professional managers, business executives to successfully run business enterprises. History of business reveals the fact that the complexity and sophistication of a business need professional management. There is a direct co-relation between the sophistication of business industry and the kind of management needed. For fast development of economy after industrial revolution, we are required to establish industries like machines, tools, equipments, electronics, engineering petrochemicals, chemicals, iron and steel, pharmaceuticals, cement, fertilisers, computers etc. and to manage these industries we need the managers with the ability to manage them successfully. These managers must have the knowledge of technical and scientific know-how, professional and administrative competence and dynamic personality. It is universally admitted that scientific training can build good managers. The managerial skills have to be acquired by training and education and the scientific managerial approach calls for initiative, entrepreneurship, goal setting drive and dynamism. Professional managers must have necessary training and ability to spot the problem areas and bring in together all the diffused talents of the various technical and professional experts such as engineers, scientists, economists psychologists, sociologists etc. to tackle the problem spots with confidence. If business administration and management is founded upon a science, if its practice is a profession, then in the near future we must expect its exponents to be men of high ability and perfect knowledge. Men who have graduated in their profession and are qualified thereby be entrusted with the responsibilities which its practice imposes. Thorough knowledge of the principles, and practice of business administration is needed for developing more good managers. Thus in short management is an essential accompaniment of all social organisations and it is to be found everywhere as a distinct, separate and dominan-for aptivity. Management is the custodian of the economic welfare of the community.

Activity A

1. "Management is all pervasive in nature "Critically examine validity of the statement by quoting practical illustrations of various formal and informal organizational setups.

3.3 Quality of Good Manager

Fayol was the first person to identify the qualities required in a manager. According to him, there are six types of qualities that a manager requires. These are as follows:

1. Physical (health, vigour, and address);
2. Mental (ability to understand and learn, judgement, mental vigour, and capability);

3. Moral (energy, firmness, initiative, loyalty, tact, and dignity);
4. Educational (general acquaintance with matters not belonging exclusively to the function performed);
5. Technical (peculiar to the function being performed); and
6. Experience (arising from the work).

Fayol has observed that the most important ability for a worker is. technical; the relative importance of managerial ability increases as one goes up the scalar chain, with insight becoming the most important ability for top level executives. On the basis of this conclusion, Fayol recognised a widespread need for principles of management and for management teaching. He held that managerial ability should be acquired first in school and later in the workshop. In order to acquire managerial knowledge, he developed principles of management to be taught in academic institutions.

3.4 Henry Fayol's General Principles of Management

Fayol has given fourteen principles of management. He has made distinction between management principles and management elements. While management principle is a fundamental truth and establishes cause-effect relationship, management element denotes the function performed by a manager. While giving the management principles, Fayol has emphasised two things: (i) The list of management principles is not exhaustive but suggestive and has"discussed only those principles which he followed on most occasions.(ii) Principles of management are not rigid but flexible. According to him, there is nothing rigid or absolute in management affairs; it is all question of proportion. Therefore, principles are flexible and capable of being adopted to every need. It is a matter of knowing how to make use of them which is a difficult art requiring intelligence, experience, and proportion. Various principles of management are as follows:

1. **Division of Work.** Fayol has advocated division of work to take the advantage of specialisation. According to him, specialisation belongs to natural order. The workers always work on the same part, the managers concerned always with the same matters, acquire an ability, sureness, and accuracy which increase their output. Each change of work brings in it training and adaptation which reduces output..yet division of work has its limits which experience and a sense of proportion teach us may not be exceeded. This division of work can be applied at all levels of the organisation.

2. **Authority and Responsibility.** The authority and responsibility are related, with the latter the corollary of the former and arising from it. Fayol finds authority as a continuation of official and personal factors. Official authority is derived from the manager's position and personal authority is derived from personal qualities such as intelligence, experience, moral worth, past services, etc. Responsibility arises out of assignment of activity. In order to discharge the responsibility properly, there should be parity of authority and responsibility.

3. **Discipline.** All the personnel serving in an organisation should be disciplined. Discipline is obedience, application, energy, behaviour, and outward mark of respect shown by employees. Discipline may be of two types: self-imposed discipline and command discipline. Self-imposed discipline springs from within the individual and is in the nature of spontaneous response to a skilful leader. Command discipline stems from a recognised authority and utilises deterrents to secure compliance with a desired action, which is expressed by established customs, rules and regulations. The ultimate strength of command discipline lies in its certainty of application.

4. **Unity of Command.** Unity of command means that a person should get orders and instructions from only one superior. The more completely an individual has a reporting relationship to a single superior, the less is the problem of conflict in instructions and the greater is the feeling of personal responsibility for results. This is contrary to Taylor's functional foremanship.

5. **Unity of Direction.** According to this principle, each group of activities with the same objective must have one head and one plan. Unity of direction is different from unity of command in the sense that the former is concerned with functioning of the organisation in respect of its grouping of activities or planning while the latter is concerned with personnel at all levels in the organisation in terms of reporting relationship.

6. **Subordination of Individual to General Interest.** Common interest is above the individual interest. Individual interest must be subordinate to general interest when there is conflict between the two. However, factors like ambition, laziness, weakness, etc., tend to reduce the importance of general interest. Therefore, superiors should set an example in fairness and goodness.

7. **Remuneration of Personnel.** Remuneration of employees should be fair and provide maximum possible satisfaction to employees and employers. Fayol did not favour profit sharing plan for workers but advocated it for managers.

8. **Centralisation.** Everything which goes to increase the importance of subordinate's role is decentralisation ; everything which goes to reduce it is centralisation. Fayol refers the extent to which authority is centralised or decentralised. Centralisation and decentralisation are the question of proportion. Since both absolute and relative values of managers and employees are constantly changing, it is desirable that the degree of centralisation or decentralisation may itself very constantly.

9. **Scalar Chain.** There should be a scalar chain of authority and of communication ranging from the highest to the lowest. It suggests that each communication going up or coming down must flow through each position in the line of authority. It can be short-circuited only in special circumstances when its rigid following would be detrimental to the organisation.

10. **Order.** This is a principle relating to the arrangement of things and people, material order, there should be a place for everything and every thing should be its place. Similarly, in social order, there should be the right man in the right place. This kind of order demands precise knowledge of the human requirements and resources of the organisation and a constant balance between these requirements and resources. Normally, bigger the size of the organisation, more difficult this balance is.

11. **Equity.** Equity is the combination of justice and kindness. Equity in treatment and behaviour is liked by everyone and it brings loyalty in the organisation. The application of equity requires good sense, experience, and good nature for soliciting loyalty and devotion from subordinates.

12. **Stability of Tenure.** No employee should be removed within short time. There should be reasonable security of jobs. Stability of tenure is essential to get an employee accustomed to new work and succeeding in doing it well. Unnecessary turnover is both cause and effect of bad management.

13. **Initiative.** Within the limits of authority and discipline, managers should encourage their employees for taking initiative. Initiative is concerned with thinking out and execution of a plan. Initiative increases zeal and energy on the part of human beings.

14. **Esprit de Corps.** This is the principle of 'union is strength' and extension of unity of command for establishing team work. The manager should encourage esprit de corps among his employees. The

erring employees should be set right by oral directions and not by demanding written explanations. Written explanations complicate the matters.

Activity B:

1. Take any organization of your choice, for example, government setup, educational setup or business and examine practical applicability of Henry Fayol's 'Administrative Management'.

3.5 F.W. Taylor's Scientific Management

Introduction & Meaning –

F.W. Taylor came about the scientific management in 1910. He is called as the father of scientific management since his contribution to this concept was much more as compared to other experts. Scientific management is a concept which over came the weakness of the traditional hit and miss & rule of thumb method of managing works and workers. It is nothing but the acceptance and application of the method of scientific investigation for the solution of the problems of industrial management. Scientific investigation includes research and experimentation, collection of data, analysis of data and formulation of certain principles on the basis of such analysis. Scientific management tries to maximize the efficiency of the plant by using this method for its operations. Here the management undertakes the responsibility for deciding the proper standers and methods of work and providing for close supervision.

Elements of Science Management -

(1) Scientific task and wage rate setting : Taylor came out with the concept of standard task or a proper day's works. The standard task i.e. set by the management is the amount of work which an average worker, working under ideal standardize condition in an atmosphere and mutual trust and co-operation will be able to do in a day. He felt the need for setting a task since the average worker in a factory will usually work much below his capacity if no standard is set for him. Taylor assumed that a great care is required for setting the standard since, if the standard. are set much higher than the capacity of an ordinary worker, it will not be achieved and will results into frustration. On the other hand if the standard set are much lower than the average capacity the purpose is not served.

Work Study: In order to set standard for different task, work study is to be conducted. Work study can be defined as a systematic objectives and critical examinations of the factors governing (controlling) the operational efficiency of any specified activity in order to effect improvement. Following are the different elements of work study-

(i) Methods Study -Methods study is to be conducted for different job, so that the best method or the most efficient method of doing a particular job comes into pictures.For this the management should prepare a process chart setting out different operations. Management should take into consideration the moments of a particular job, materials, inspection and storage etc. If possible different operation should be combined and the unnecessary elements are to be removed.

(ii) Motion Study- Motion study is a study of the moments of an operator or worker as well as machine also, required in performing operation or a task. The main purpose isto remove or eliminate useless or unnecessary moments. This study helps in settingout a standard of performance. It tries to find out the best method for job performance which every worker is expected to follow.

(iii) Time Study- Time Study deals with the art of observing and recording the time required to each details operation of a job. It requires care full measurement of the time required for different Jobs and the purpose is to determine the proper time for performing the job.

(iv) Fatigue Study- Fatigue study deals with studying what an average. Man perform for long period of years without injuring to his health and happiness. Fatigues of all kinds physical or psychological are adversely affects the health and efficiency of the worker. Hence, the standard task should be set in such a way that the worker should get rest in between the continuous work and it should reduce the fatigue of boredom. The worker gets an opportunity to regain his energy which is lost in continuous work.

(v) Wage Rage Study- The setting of standard task is useless until the wages are fixed in such a manner that the average.worker is motivated to achieve/attain the standards. Taylor suggested that differential Piece Wage System under which workers performing more than the standard task are paid much higher that what is fixed.

(2) Planning The Task: Taylor stress on the planning aspect of every job. So that there are no bottlenecks and the work goes on systematic manner. Accordingly to him all the planning. departments should deal with the following four aspects:

(a) What is to be done?
(b) How the work shall be done?
(c) Where the work shall be done?
(d) When the work shall be done?

The production and the planning. Department should give detail instructions and information to their employees so that the work can be done according to the plans prepared.

(3) Scientific Selection & Training:

(i) Scientific Selection: Taylor put emphasis upon the methods and the procedures used for selecting the workers. Earlier the foreman used to select the workers on the basis of his own knowledge and judgment. Such selection will not necessary lead to the proper performance of the work. So Taylor suggested that the selection of the workers should be done in a very systematic way. Hence, he stress upon a scientific selection of worker, where in every worker is suppose to pass through the selection process designed and thus the most efficient worker are selected.

(ii) Scientific Placement: Once the selection is done in a systematic way than the placement of the selected worker is also equally important i.e. the worker should be placed on such jobs which matches with the skills, abilities and knowledge possessed by the worker and which is the same as demanded by the job requirements. Anymistakes committed in the proper placement of workers will lead to heavy losses.

(iii) Scientific Training & Development: Once the right worker is placed on the right job, again attention should be given to the trainings of the worker, so that he not only performs the job more efficiently but as well will update his knowledge and skills required for future jobs.

(4) Standardisation: Taylor stress upon the standardization of tools and equipments, speed of work, conditions of work and materials used to complete the work :

(i) Tools and Equipments: Taylor wanted to bring standardization related to the tools and equipment which are used for performing a work. This helps in bringing uniformity and will also avoid the use inferior quality of goods, there by adversely affecting the quality of the work. He classified the tools in to first class second class and third class and suggested that the management should select the best tools which properly match with the work concerned.

(ii) Speed of Work: According to Taylor, there should be optimum speed for every machine. If

the machine is operated beyond that speed it will result in to the damage of the machinery. Hence he suggested that the most efficient speed at which the worker should work is to be determine that the work is perform in the most efficient way.

(iii) Condition of Worker: Taylor suggested standardization related to the working conditions which included verification, enough lighting, humidity, coolness, safety etc. These all are very essential since they effect the attitudes of the workers and there by their efficiency.

(iv) Materials: Apart from above mentioned factors, efficiency of the worker also depends upon the quality of materials used as well as the method of handling the materials. If the quality of material is inferior, uniformity of the quality of the product is not maintained. Also the best methods of handling the materials is to be determined so that there is a minimum wastage.

(5) **Specialization:** Specialisation is a very important feature related to standardization. Taylor suggested the following three elements in order to bring specialization:

(i) Functional Foremanship: In the traditional organizations, one foreman use to issue guideline and instruction to all the workers and the workers were suppose to follow them. What Taylor suggested is the planning. Function should be separated from the doing function i.e. he suggested functional foremanship. Because of functional foremanship, the person concerned specializes in the function performed by him. Since he is supposed to do the same job again and again.

(ii) Management by Exception: Taylor introduced the principle of Management By Exception wherein he try to reduce the workload of overburdened managers. What he suggested is that a manager should perform only the most important task and the least important or the less important task should be deligated to his subordinates so that he can take correct decisions with enough time on his side.

(iii) Cost Accounting: Cost accounting is concerned with the determination of factory cost and the cost of inventories. Cost accounting helps in the following ways:

1. It gives a historical view of the cost of production and its components.
2. It is used to control cost on various items of expenses connected with the manufacturing operations.
3. It is used as an important technique of estimation cost and budgeting.

(6) **Mental Revolution:** The two parties i.e. the employer and the employees have their own individual interest which are always in conflict to the other parties interest. If one party tries to maximise its interest, automatically the other party's interest is adversely affected & vice versa. So Taylor suggested to bring a mental revolution thereby bringing a change in the attitude and beliefs that both the parties have towards each others. He said that both the parties should try to increase the profit margin and should unctually agree to share the profit, so that interest of the both can be satisfied.

Principles of Scientific Management:

Taylor has given certain basic principles of scientific management. The fundamental principles that Taylor saw underlying the scientific management may be given below:

1. **Replacing Rule of Thumb with Science.** Taylor has emphasised that in scientific management, organised knowledge should be applied which will replace rule of thumb. While the use of scientific method denotes precision in determining any aspect of work, rule of thumb emphasises estimation. Since exactness of various aspects of work like day's fair work, standardisation in work, differential piece rate for payment, etc., is the basic core of scientific management, it is essential that all these

are measured precisely and should not be based on mere estimates. This approach can be adopted in all aspects of managing.

2. **Harmony in Group Action.** Taylor has emphasised that attempts should be made to obtain harmony in group action rather than discord. Group harmony sug-gests that there should be mutual give and take situation and proper understanding so that group as a whole contributes to the maximum.
3. **Co-operation.** Scientific management involves achieving co-operation rather than chaotic individualism. Scientific management is based on mutual confidence, co-operation and goodwill. Co-operation between management and workers can be developed through mutual understanding and a change in thinking. Taylor has suggested "substitution of war for peace, hearty and brotherly co-operation for con-tentment and strife, replacement of suspicious watchfulness with mutual confidence, of becoming friends instead of enemies. It is along this line, I say, that scientific management must be developed."
4. **Maximum Output.** Scientific management involves continuous increase in production and productivity instead of restricted production either by management or by worker. Taylor hated inefficiency and deliberate curtailment of production. His concern was with the large size of the cake. In his opinion, "there is hardly any worse crime to my mind than that of deliberately restricting output." He decried quarrel over production but welcomed quarrel over distribution, provided the product to be distributed had outgrown the size. Therefore, he advised the manage-ment and workers to "turn their attention towards increasing the size of the surplus until the size of the surplus becomes so large that it is necessary to quarrel over how it shall be divided."
5. **Development of Workers.** In scientific management, all workers should be developed to the fullest extent possible for their own and for the company's highest prosperity. Development of workers requires their scientific selection and providing them training at the workplace. Training should be provided to workers to keep them fully fit according to the requirernent new methods of working which may be different from the non-scientific methods.

Criticisms of Taylor's Scientific Management :

(1) **Unbalanced Approach :** Scientific Management is criticised for taking a partial view of the whole management function i.e. it focuses attention only on the problem of production management. However other management functions like maketing, finance are equally concerned with the integration of all the function and not some or few. Thus, scientific management is criticised for its unbalanced approach related to management functions.

(2) **Mechanical Approach :** Another criticism is that scientific mgt. focuses on the mechanical approach adopted towards the workers i.e. workers are more or less "automated' and are expected to work similar to machines. Infact , human approach is tobe adopted towards the workers. Workers should be allowed to participate with management thus the atmosphere cooperation can be generated.

(3) **Pessimistic assumption about human nature:** Scientific mgt. is also criticised for having pessimistic assumption (similar to theory x) , about human nature. It considers that humans basically lake ambition, are not hardworking and are lazy, do not like to take responsibility etc. These all are negative assumptions about human nature and because of this Taylor stressed upon close supervision and tight control over workers. In fact, this theory is too pessimistic and Douglas Mcgragor came out with theory-y against Theory-X which had all positive assumption related to human nature. He stressed upon MBO (Management By Objectives) and self control.

(4) **Exploitation of Worker:** This theory lead to exploitation of worker in the sense that by following Taylor's scientific management. the productivity though increased but still the wages of the workers

were not raised/or were in the same proportion. Thus, the workers were exploited by not allowing them to share in the high productivity.

(5) **Problem of Monotony:** Over-specialization under scientific management leads to monotony, since the worker is supposed to perform the same job repeatedly; hence, the work becomes dull and monotonous, which will lead to reduced efficiency. Psychologists suggested 'Job Enlargement' where by the workers is allowed to do small bits of work connected with the job proper, in addition to the job itself.

(6) **Loss due to re-organization:** Introduction of scientific mgt. requires a virtual re-organization of the whole industrial structure and because of the suspended work, there could be loss of production. Hence, scientific mgt. is to be introduced slowly so that the normal functioning of the industry is not distributed.

Activity C:

1. Do you think F.W. Taylor's scientific management is at its verge of obsolescence? justify your answer by stating case for or against it with the help of practical illustration of your choice.

3.6 Summary

Management is all pervasive in nature since it is inevitable irrespetive of nature and size of the activity. It has versatile and unique role to play in business, industry, society and national economy as a whole. Henry Fayol gives six types a qualities that a manager require viz-Physical, Mental, Moral, Educational, Technical and experience. He has also give fourteen principles of management also known has 'Administrative Management'.F.W. Taylor come about how to add an element of science in management, he has given elements and principle of scientific management. Scientific management was criticize for its pessimistic assumption about human nature and problem of monotony. Scientific management laid down mental revolution as a essential condition for its successful application.

3.7 Self Assessment Questions

1 What are the common qualities you expect in a successful manager ?

2 Critically evaluate F.W.Taylor's 'Scientific Management' and state whether and to what extent it can be successful in present context ?

3 Which of Fayol's principles & functions of management do you believe still apply today ?

4 Discuss significance of management with reference to business, industry, society and national economy.

5 Was Taylor's assumption that management and labour had a common cause valid ? why or why not ?

6 What were some of the work methods and tools that Taylor introduced to increase productivity ?

3.8 Reference Books

- L.M. Prasad (2002); 'Principles and Practices of Management'; Sultan Chand & Sons, Educational Publishers, 2002, New Delhi.
- James A. F. Stoner, R. Edward Freeman, and Daniel R. Gilbert Jr. (2008); 'Management'; PEARSON Prentice Hall, 6th Edition, Reprint in 2008.

Unit - 6 Process and Components of Planning

Structure of Unit

6.0 Objectives

After completing this unit, you will be able to:

- Discuss the basic framework of planning process as an element of managing.
- State the major steps involved in planning process
- Identify the importance and techniques of forecasting.
- Understand tools, techniques and components of planning

6.1 Introduction

There is nothing about an organization more important than its future. Owners, management, employees, and society in general are, or should be, more concerned about where a company is going than where it has been. In any situation the responsibility for visualizing, initiating, and achieving future objectives rests with top management. The more specifically the future course of a company is conceived and defined: the more likely is its realization. One of the greatest needs observed is for adequate planning and clarification of future objectives, both near-term and long-term. The purpose of planning is not to show how precisely we can predict the future, but rather to uncover the things we must do today in order to have a future.

6.2 Planning Process

It is not necessary that a particular planning process is applicable for all organizations and for all types of plans because the various factors that go into planning process may differ from plan to plan or from one organization to another. For example, planning process may differ from plan to plan or from one organization to another. For example, planning for a major action will take more serious evaluation of various elements necessary for planning process may not be taken in the same ways as in a large organization. Here is given a process of planning which is applicable for a major Programme like opening of a new product line or acquisition of a major plant. With minor modifications, the process is applicable to all types of plans.

The sequences of various steps in planning are in such a way that they lead to the translation of an idea into action by reaching to the state of establishing of sequences of activities. Each stage contributes to plan formulation in the following ways:

a) Perception of opportunities : Perception of opportunities is not strictly a planning process. However, this awareness is very important for planning process because it leads to formulation of plans by providing clue whether opportunities exist for taking up particular plans. From this point of view, it can beconsidered as the beginning of planning process. Perception of opportunities includes a preliminary look at possible opportunities and the ability to see them clearly and completely knowledge of where the organization stands in the light of its strengths and weakness an understanding of why the organization wants to solve uncertainties, and a vision of what it expects to gain. This provides an opportunity to set the objectives in real sense because the organization tries to relate itself with the environment. In doing so, it takes the advantages of opportunities and avoids threats. This is a preliminary stage, hence the analysis of environment is not taken in very elaborate form but analysis relates to the determination of opportunities at first instance. Once the opportunities are perceived to be available, the other steps of planning are undertaken.

b) Establishing objectives. At this stage, major organizational and unit objectives are set. Objectives specify the results expected and indicate the end points of what is to be done, where the primary emphasis is to be placed and what is to be accomplished by the various types of plans. the organizational objectives should be specified in all key result areas. Key result areas are those which are important for organization in achieving its objectives. These are identified on the basis of organizational objectives. For example, for an organization, key result areas may be profitability, sales, research and development manufacturing and so on. Once organizational objectives are identified, objectives of lower units and subunits can be identified in that context. Organizational objectives give direction to the nature of all major plans which, by reflecting these objectives, define the objectives of major departments. These in turn, control the objectives of subordinate departments, and so on down the line. Thus, there will be hierarchy of objectives in the organization.

c) Planning premises. After determination of organizational goals, the next step is establishing planning premises, that is, the conditions under which planning activities will be undertaken. Planning premises are planning assumptions the expected environmental and internal conditions. Thus, planning premises are external and internal. External premises include total factors in takes environment like political social, technological, competitors plans and actions, government policies, etc. internal factors include organization`s policies, resources of various types and the ability of the organization to withstand the environmental pressure. The plans are formulated in the light of both external and internal factors. The more individual charged with planning understand and utilize consistent planning premises, the more coordinated planning with be forecasting plays a major role in planning premises. The nature of planning premises differs at different levels of planning. At the top level, it is mostly externally focused. As one moves down the organizational hierarchy, the composition of planning premises changes from externalto internal. The major plans, both old and new, will materially affecting a subordinate manager`s area of authority become premises for the latter`s planning.

d) Identification of Alternatives. Based on the organizational objectives and planning premises, various alternatives can be identified. The concept of various alternatives suggests that a particular objective can be achieve planning through various actions for example if an organization has set its objective to grow further, it can be achieved in several ways like expanding in the same field of business or product line, diversifying in other areas, joining hands with other organizations, or taking over another organizations and so on. With in each category, there may be several alternatives. For example diversification itself

may point out the possibility of entering into one of the several fields. The most common problem with alternatives is not that of finding of alternatives only but to reduce the number of alternatives so that most promising ones may be taken for detailed analysis. Since all alternatives cannot be considered for further analysis, it is necessary for the planner to reduce in preliminary examination the number of alternatives which do not meet the minimum preliminary criteria. Preliminary criteria can be defined in several ways, such as minimum investment required, matching with the present business of the organization, control by the government, etc. For example, one company has defined preliminary criteria in terms of size of investment in new project and may not consider any project involving investment of less than Rs. 40 crores.

e) Evaluation of Alternatives. Various alternatives which are considered feasible in terms of preliminary criteria may be taken for detailed evaluation. At this storage, an attempt is made to evaluate how each alternative contributes to the organizational objectives in the light of its resources and constraints.

This presents a problem because each alternative may have certain positive points on one aspect but negative on others. For example, one alternative may be most profitable but requires heavy investment with long gestation period; another may be less profitable but also involves less risk. Moreover, there is no certainty about the outcome of any alternative because it is related with future and future is not certain. It is affected by a large number of factors making the evaluation work quite complex. This is the reason why more sophisticated techniques of planning and decision making have been developed. Such techniques will be described.

f) Choice of Alternative: After the evaluation of various alternatives, the fit one is selected. Sometimes evaluation shows that more than one alternative is equally good. In such a case, a planner may choose more than one alternative. There is another reason for choosing more than one alternative. Alternative course of action is to be undertaken in future which is not constant. A course of action chosen keeping in view the various planning premises may not be the best one if there is change in planning premises. Therefore, planner must be ready with alternative, normally known as contingency plan, which can be implemented in changed situations.

g) Formulation of Supporting Plans. After formulating the basic plan, various plans are derived so as to support the main plan. In an organization there can be various derivative plans like planning for buying equipments, buying raw materials, recruiting and training personnel, developing new product etc. these derivative plans are formulated out of the main plan and therefore they support it.

h) Establishing Sequence of Activities. After formulating basic and derivative plans, the sequence of activities is determined so that plans are put into action. Based on plans at various levels, it can be decided who will do what and at what time. Budgets for various periods can be prepared to give plans more concrete meaning for implementation.

Activity A:

1. You are planning to buy a gift for your parents for their marriage anniversary. Match the different steps of planning process with your actual behavior and analyze the implication of planning process in real life situations.

6.3 Forecasting

An organization has to formulate its plants within the limitations of various factors. In order to formulate accurate plans, managers have to find out the likely behavior of these factors in future. This can

done to some extent by making suitable forecast. A major factor in the increased use of systematic planning throughout the world in recent years is the increased effectiveness of forecasting techniques. The effectiveness has been pronounced in two broad areas where forecasting is needed prediction of broad economic trends and product sales of individual organizations. There has also been development in the entirely new area of forecasting with the prediction of technological development and other types of innovations.

1. Concept of Forecasting

Forecasting is the process of estimating the relevant events of future, based on the analysis of their past and present behavior. The future cannot be probed unless on knows how the events provides information about the future occurrences. Since forecasting may require the use of various statistical techniques, some persons equate this analysis with statistical analysis. For example Neter and Wasserman have defined forecasting as "Business forecasting refers to the statistical analysis of the past and current movement in the given time series so as to obtain clues about the future pattern of those movements.

However, it is not necessary that all forecasts require the same type of statistical analysis as suggested above. For example prediction of technological situation man not requires the use of statistics of the sort suggested above. On the basis of the definition, following features of forecasting can be identified.

i. Forecasting relates to the future events. This is needed for planning process because it devises future course of action.

ii. Forecasting defines the profitability of happening of future events. Therefore happening of future events can be precise only to a certain extent.

iii. Forecasting is made by analyzing the past and present relevant events, that is taking those factors which are relevant for the function of an organization.

iv. The analysis of various factors may require the use of various statistical tool and techniques. However, personal observations can also help in the process.

2. Planning and Forecasting Comparison

Some persons equate both planning and forecasting because both deal with future phenomena. However both are different and clear cut difference can be drawn between the two. The difference lies basically in the scope of two processes. Planning more comprehensive which indicates many sub processes and elements in order to arrive at decisions. Such decisions may be in terms of what is to be done, how to be done, and when to be done. Commitment of actions is the basic ingredient of planning. Forecasting on the other hand, involves the estimate of future evens and provides parameters to the planning. Forecasting process may also involve many sub processes and elements but these are used to project what will happen in future. This may not require any commitment of action but may help in planning the future course of action. In fact, forecasting is one of the major ingredients of planning process because planning involves determination of future course of action in the light of forecast made.

There is another difference between planning and forecasting. Since planning involves making comprehensive decisions in the organization which will determination where the organization would like to go, a large number of persons are involved in planning process, though major decisions are made at the top level. Forecasting in normally taken at middle or lower level. The work may be entrusted to staff positions which may help in arriving at planning decisions. Forecasting does not involve decision making but helps decision making by providing clue about what is likely to happen in future. Therefore forecasting

activity can be taken by those persons what may not affect whole of the organization or its major portion by their decisions.

3. Importance of Forecasting

The need and importance of forecasting is apparent from the key role it plays in management process, particularly in planning process. in fact, every decisions in the organization is based on some sort of forecasting. It helps management in the following ways.

i. **Promotion of organization**. An organization is established in order to achieve by performance of certain activities. What activities should be performed depends on the expected outcome of these activities. Since expected outcome depends on future events and the way in which an activity is being performed, forecasting of future events is of direct relevance in achieving an objective. Thus, even before establishing an organization, the promoter of the organization must know how the various factors in the environment will behave over a period of time. A successful promoter is one who can forecast what will happen. In fact, many entrepreneurs project the shape of things to some on the basis of their experience and take the advantages.

ii. **Key to planning:** forecasting is an essential ingredient of planning. It is key to planning process. Planning decides the future course of action. However, this future course of action does not take place in vacuum but in certain circumstances and conditions. Unless the managers know these conditions they cannot go for effective planning or even planning at all. Forecasting generates the planning process. it provides the knowledge of planning premises within which managers can analyze their strengths and weaknesses and can take appropriate actions in advance before actually they are put out of market. Forecasting provides the knowledge about the nature of future conditions. For example, if there is a change in consumer's preferences for substitute products, managers can take action to combat this problem by changing to suitable mix of products. Suppose while conditions are still prosperous for steel pipe manufacturers but they find that gradually PVC pipes are coming in the market and being cheaper are replacing steel pipes, they can take suitable action to overcome this problem. The steel pipe manufacturers can know that in future demand for steel pipes will go down, they can assess exactly how much market they will lose, they can take action for diverting their business either by going into manufactures of PVC pipes or in some other business. At the same time, however, if they find that PVC pipes offer very limited competition and market for steel pipes is also expanding they can concentrate on the same business. Thus, forecasting will provide where the efforts should be put.

iii. **Coordination and control.** Forecasting provides the way for effective coordination and control, though indirectly. Forecasting requires information about various external and internal factors. The information is collected from various internal sources beside the external sources. Thus, almost all units of the organization are involved in the process which provides interactive opportunities for better unity and coordination in the planning process. Similarly forecasting can provide relevant information for exercising control. The managers can know their weaknesses in forecasting process and they can take suitable action to overcome these.

iv. **Success in Organization:** All business organizations are characterized by risk and have to work within the ups and downs of the industry. In fact, profit is the reward for bearing risk and working under uncertainties. The risk depends on the future happenings and forecasting's provides help to overcome the problems of uncertainties. Though forecasting does not check the future happenings, it provides clues about those and indicates when the alternative action should be taken. Managers

can save their business and face the unfortunate happenings: it provides clues about those and indicates when the alternative action should be taken. Managers can save their business and face the unfortunate happenings if they know in advance what is going to happen. The business can be saved from the impact of trade cycles. A manager can just work like a navigator. A navigator cannot control the sea tides and other disturbances but he can take his ship at the right path and save it from these disturbances if he knows them in advance.

4. Limitations of Forecasting

No doubt, forecasting is an essential ingredient, but is should not be concluded forecasting is the only element which goes into planning and other areas of organizational process. Forecasting provides base for assuming the behavior certain events which may not be fully true. Future uncertainties always put limitations on planning. If future could be accurately predicted, managers could be ahead without fear that their effort has gone naught. Therefore, managers should well aware about the limitations of forecasting while using it in arriving at certain decisions. In particular, adequate considerations should be given to the following limitations of forecasting.

i. **Based on Assumptions:** forecasting is based on certain assumptions. It suggests that if an event has happened this way in the past, it will happen that in the future. The basic assumption behind this is that events do not change happens hardly and speedily but change on a regular pattern. This assumption may not be good. In fact, there are various factors which go into determining the occurrence an event. The behavior of all these factors which go into determining the occurrence an event. The behavior of all these factors may not be similar. A change particular factor may be so unpredictable and important that it may affect the business situation. For example, if the government increases taxes on certain commodities, their substitutes will be in high demand. The changes in tax structure in case cannot be forecast. Similarly war between two countries can change the business situations. All these events are not subject to precise forecast because it do not depend solely on the assumption that future follows the past.

ii. **Not Absolute Truth.** Forecasts are not always true, they merely indicate trend of future happenings. This is so because the factors which are taken account for making forecast are affected by human factor which is highly unpredictable. Various techniques of forecasting suggest the relationship among various known facts. They can project the future trends but cannot guarantee that would happen in future. More is the period of forecasting, higher is the degree error. Therefore, it has been commented that "the only thing you can be sure all any forecast is that it will contain some error. Therefore, while using forecast managers should take this fact into consideration.

iii. **Time and Cost Factor.** Time and cost factor is also an important aspect of casting. While the above factors speak of limitations inherent in forecasting, time cost factor suggests the degree to which an organization will go for formal forecasting. For making forecast of any event, certain information and data are required. Some of these may be in highly disorganized form; some may be in qualitative form. The collection of information and conversion of qualitative data into quantitative ones involves lot of time and money. Therefore managers have to trade off between the cost involved in forecasting and resultant benefits. This is the reason why the smaller organizations do not go for formal system of forecasting.

5. Steps in forecasting

Forecasting is a process and therefore it proceeds through a series of steps. Depending on the level of formalization and intensity of forecasting, varying emphasis is put on these steps. These steps are as follows :

i. **Developing Groundwork for forecasting.** The first step in forecasting is to develop ground work for forecasting which involves understanding of why changes are likely to take place both at macro level and micro level. The companies involved in forecasting future trend, generally, take past records as basis which might be available internally if proper information system has been developed. However, a mechanical and purely mathematical forecast based on the past data may not be worthwhile in the fast changing environment. Therefore the companies have to take into account various factors which are not reflected in the past data. For example in post liberalization era, the demand for the products has increased at macro level but because of increased competition, many companies have lost their market share.

ii. **Estimating future business.** Based on the past data and identification of events that are likely to affect the future behavior of the business, the trend for the business as a whole and market share of the companies concerned are determined by using various techniques – qualitative and quantitative. The trend is projected after a step by step procedure in which the relevant information is put for close scrutiny and analysis. The business trend which emerges out of this analysis will suggest the likely behavior which may or not correspond with actual. For example, when Government of India prepares its plans, it projects various outcomes at the end of a plan. However, we, often find that many outcomes do not match with the projected ones because of a variety of reasons. Therefore, the projected trend should be used as guideline and not as absolute truth.

iii. **Comparing actual and projected results:** Since there is a likelihood of deviation between actual and projected results, a provision should be made to identify the deviation as quickly as possible so that necessary changes are incorporated in plans. Many companies prepare plans on the basis of certain forecasts but either they modify their plans or abandon these midway because of the changed environmental situations or because of the wrong projection of business trends.

iv. **Refining the Forecasting Process:** The above three steps complete a cycle of forecasting. However, forecasting, being a continuous process and not one shot action is performed continuously with each time, there may be refinement in the forecasting process and therefore, its outcomes. These above steps help the managers to gain proficiency in making dependable forecasts as the time advances, they are able to refine, sharpen and adjust the forecasting techniques to meet the changing needs of their business. Since there are many qualitative variables which affect business trends, their interpretation requires considerable experiences.

6. Techniques of Forecasting

There are various methods of forecasting ranging from simple intuitive methods to the use of highly complex models. However, no method can be suggested as universally applicable. In fact, most the forecasts are done by combining various methods. The major forecasting methods are historical analogy, survey, opinion, polls, business barometers, time series analysis, extrapolation, regression analysis, input out put analysis, and econometric models. These techniques can be used for making forecast of any type economic forecast, sales forecast technological forecast. A brief discussion of these is given below.

i. **Historical Analogy Method:** Under historical analogy method, forecast in regard to a particular phenomenon is based on some analogous conditions elsewhere in the past. This method is based on the stages of economic development as suggested by Rostow. According to him, an economy has to pass through certain stages before the stage of takeoff and later of high mass consumption. Since this is true for all the economies, the situation of a country can be forecast by making comparison with the advanced countries at a particular stage through which the country is presently

passing. For example if the Indian economy is ready for takeoff which was the condition prevailing in USA around 1940, the demand for various commodities can be forecast. Similarly, it has been observed that if anything is invented in some part of the world, this is adopted in other countries after a gap of certain time. Thus, based on analogy, a general forecast can be made about the nature of events in the economic system of the country. However, this method is more useful for indicating qualitative change in society. It is often suggested that social analogies have helped in indicating the trends of changes in the norms of business behavior in terms of life. Similarly changes in the norms of business behavior in terms of life. Similarly changes in the norms of business behavior in terms of attitude of the worker against inequality etc., find similarities in various countries at various stages of the history of industrial growth. This method, thus gives broad indications about the future events of general nature.

ii. **Survey Method:** Field surveys can be conducted to gather information on the intentions of the concerned people, for example information may be collected through surveys about the likely expenditures of consumers on various items. Both quantitative and qualitative information may be collected. Such information may throw useful light on the attitude of the consumers in regard to various items of expenditure and consumption. On the basis of such surveys, demand for various goods can be projected. To limit the cost and time, the survey may be restricted to a sample from the prospective consumers. Survey method is suitable for forecasting demand both of existing and new products.

iii. **Opinion Poll:** Opinion poll is conducted to assess the opinion of the knowledgeable persons and experts in the field whose views carry a lot of weight. For example, opinion polls are very popular to predict the outcome of elections in many countries. Similarly an opinion poll of the sales representatives, wholesalers or marketing experts may be helpful in formulating demand projections. The opinion poll of technical experts may be helpful in estimating the life of a technology. If opinion polls give widely divergent views, these can be carried a step further in which experts may be called for discussion and explanation of why they are holding a particular view. They may be asked to comment on the views of the others, to revise their views in the context of opposing views, and consensus may emerge. This, then, becomes the estimate of future events.

iv. **Business Barometers:** In physical science, a barometer is used to measure the atmospheric pressure. In the same way, index numbers are used to measure the state of economy between two or more periods. These index numbers are the divide to study the trends, seasonal fluctuations, cyclical movements, and irregular fluctuations. These index numbers, when used in conjunction with one another or combined with one or more, Provide indications as to the direction in which the economy is heading. For example, a rise in the rate of investment now may herald an upswing in the economy and may reflect higher employment and income after some time. Again an upswing in economic activity may lead to higher personal income and expenditure after lag of some period. These lag periods may be difficult to predict precisely but they give some advance signals for likely changes in future. Thus, with the help of business activity index numbers, it becomes comparatively easy to forecast the future course of action. However, it should be borne in mind that business barometers have their own limitations and they are not sure road to success. All types of businesses do not follow the general trend but different index numbers have to oe prepared for different activities. This is the reason why index numbers are prepared for industry, agriculture, transport etc.

v. **Time series analysis:** Time series analysis involves decomposition of historical series into its

various components, viz. trend, seasonal variations, cyclical variations, and random variations. Time series analysis uses index numbers but it is different from barometric technique. In barometric technique, the future is predicted from the indicating series which serve as barometers of economic change. In time series analysis, the future is taken as some sort of an extension of the past. When the various components of a time series are separated, the variation of a peculiar phenomenon the subject under study, say price, can be known over the period of time which may be true for future also. However, time series analysis should be used as a basis for forecasting when data are available for a long period of time and tendencies disclosed by the trend and seasonal factors are fairly clear and stable.

vi. **Extrapolation:** Extrapolation is also based on time series because it relies on the behaviors of a series in the past and projects the same trend in future. This method does not isolate the effects of various factors influencing a problem under study but takes into account the totality of their effects and assumes that the effect of these factors is of a constant and stable pattern and would continue as such in future. Since the projection of future is based on past, it is essential that the growth curve of a series is chosen after a very careful study of its past behavior.

vii. **Regression Analysis:** Regression analysis is meant to disclose the relative movements of two or more interrelated series. It is used to estimate the changes in one variable as a result of specified changes in other variable of variables. In economic and business situations, there is multiple causation and a number of factors affect a business phenomenon simultaneously. Regression analysis helps in isolating the effects of such factors to a great extent. For example if we know that there is a positive relationship between advertising expenditure and volume of sales or between sales and profit, it is possible to have estimate of the sales on the basis of advertising or of profit on the basis of projected sales, provided other things remain the same. Regression analysis can be used to build models. These models can be seen taking into account linear relationship between two variables only or complex linear relationship having more than two variables. Generally the regression correlation analysis is used for processing the statistical data and deriving a generalized mathematical relationship which subject to a certain error, can be used forecasting the expected values of the dependent variables in future if the value independent variables are known. For example, if quantity of fertilizers being presently is known and also the rate at which the annual consumption is increase in the demand for fertilizers can be predicted for distant future.

viii. **Input Output Analysis:** Under this method, a forecast of output is based given input if relationship between input and output is known. Similarly in requirement can be forecast on the basis of final output with a given input out relationship. It is because of this mechanism that the technique is known as input output analysis or end use technique. The very basis of this technique is that various sectors of economy are interrelated and such interrelationships are established. Such relationships are known as coefficients in mathematical terms example, coal requirements of the country can be predicted on the basis of its rate in various sectors, say industry, transport, household, etc. and on the basis how the various sectors behave in future. This technique yields sector wise forecast and is extensively used in forecasting business events as the data required for application are easily obtained.

ix. **Econometric Models**: The word econometric is made up of two words econometric and metric thereby referring to the science of economic measurement. In economic method, mathematical models are used to express relationship among variables. The models take the form of a set of simultaneous equations. The constants in these equations are arrived at by a study of time series

and since the variables affecting a business phenomenon are many, a large number of equations may have to be formed to arrived a particular econometric model. These equations are not easy to formulate but advent of computers has made the formation of these equations relatively easy. Construction of an econometric model is very expensive, technical and complicated ar d individual organizations can ill afford to have such models of their own. They have to rely on aggregate or macro level models developed by specialized forecasting agencies or institutes. These aggregate models are, however, useful in making micro level studies by individual organizations.

Activity B :

1. Analyze the applicability of different forecasting techniques in real life situation and discuss its importance to planning.

6.4 Tools and Techniques of Planning

1. Management by Objectives : Management by objectives (MBO) or management by results (MBR) has drawn considerable attention of both academicians as well as practitioners because of two reasons. First it focuses sharply on the objectives or results which a manager is expected to achieve within a specified period. Second it emphasizes participative management, an approach which provides high motivation to individuals in the organization. The term MBO was coined by Peter Drucker in 1954 when he emphasized the concept of managing by objectives. Since then, many organizations, both business and non business, have adopted this in some form or the other. (MBO is explained in detial in unit no. 7)

2. Time event network analysis : Time event network analysis helps to know how the parts of a Programme fit together during the passage of time and events. This is undertaken to ensure that the Programme or project is completed within the stipulated time. In a repetitive and mass production system, once time event network analysis is undertaken, it works for a time till new system is introduced. However, in the case of project completion which is entirely new as compared to the previous project, time event network analysis has to be undertaken a fresh. For example construction of a bridge or manufacturing a space satellite, etc. requires time event network analysis every time the project is undertaken. In these cases, time element is one of the most significant considerations because if the project is not completed within the specified time, the organization has to pay heavy penalty. There are three major techniques for this analysis. Gantt chart, milestone budgeting and PERT / CPM though PERT / CPM is the most popular.

3. Gantt chart : Gantt chart has been developed by Henry Gantt early in twentieth century culminating in the bar chart bearing his name. Gantt recognized that total Programme goals should be regarded as a series of interrelated derivative plans that people could comprehend and follow. Based on this recognition, he identified the relationship among different activities required to complete a Programme. Such relationship was expressed in terms of the starting time of various activities since some of the activities were independent of others while some of the activities were dependent on others. For example construction of building can start only after acquisition of land and therefore these two activities are dependent. In the same example, construction of house and making application for electricity connection and pursuing for it can go together. Thus, both these activities are independent to some extent. Based on this premise, Gantt chart was developed which has been presented in fig.

In the Gantt chart, it is indicated that two or more activities which have sequential relationship must be completed in that order. However, the chart does not depict the relationship between one group

of activities with another group of activities. For example, it shows relationship among two activities in task A but does not show relationship between task A and B or other task. In order to overcome this problem milestone budgeting and PERT / CPM network has been developed.

4. **Milestone Budgeting :** Milestone budgeting also known as milepost budgeting breaks a project into controllable pieces and then follows them carefully. A milestone is an identifiable segment of a project. When accomplishment of a given segment occurs its costs or other results can be determined. For applying milestone budgeting, a project is broken into subprojects that can be completed individually, in a time sequence, to be ready when needed. For example, a project involving manufacturing of an electrical machine may be broken into design of a circuit, a motor a driving mechanism, a signal feedback device, and similar components, each being completed individually in a time sequence. Thus control is exercised at each level to see how the progress is made in terms of time. The milestone budgeting is an improvement over Gantt chart in the sense that it establishes relationships between two or more segments of a project, how forecast however, such a relationship is not completely depicted in milestone budgeting and in order to overcome this problem. PERT / CPM has been developed.

5. **PERT / CPM :** PERT (Programme Evaluation and Review Technique) was developed by the special project office of the US Navy in 1958. Almost at the same time, engineers at the Du pont company, USA also developed CPM (Critical Path Method). Though there is some difference between PERT and CPM both utilizes the same principles. The basis difference between the two is that CPM assumes the duration of every activity to be constant, therefore, every activity is either critical or not. In PERT, uncertainty in the duration of activities, most likely duration and is measured by three parameters most optimistic duration, most likely duration and most pessimistic duration. PERT / CPM is used either to minimize total time, minimize total cost, minimize cost for a given total time, minimize time for a given cost, or minimize idle resources.

- Process of PERT / CPM : A Programme consists of several activities and sub activities. In order to complete the Programme, these activities, sub activities should be completed in a proper sequence and in allotted time. Since some of the activities can be taken simultaneously a network is developed to show the sequence, time taken, and the time of start of particular actives. The whole process involved in the preparation of PERT / CPM is as follows.

a) Identification of activities: Activities represent jobs that should be performed in order to complete Programme or project. Each activity takes some specific time under given conditions.

b) Sequential arrangement of activities. There is always a technological sequence in the various activities of a project. Preceding and succeeding events should be located to bring the sequence. Preceding events are those which should be completed before a particular event can start. Succeeding events are those that immediately follow another event.

c) Time estimates of activities. All events are associated with a definite point of time and as such, events provide a basis of measuring the progress of a Programme. Hence, there should be correct estimate of time taken by each activity. However the activities are performed in future and it may not be possible to forecast the future happening correctly, consequently the correct time estimate of activities. To over come this problem, three time estimates are taken optimistic time showing the least time of an activity, pessimistic time showing the maximum time of activity, and most probable time which like in between the two. The expected time of an activity is calculated by

$$\frac{0 + 4m + p}{6}$$

d) Network Construction. All activities of a Programme are connected sequentially to form a network known as PERT network.

Following are rules for construction of PERT / CPM network.

(i) One and only one arrow represents each completely defined activity

(ii) The length of the arrow does not depend upon the duration of the activity but is governed by the need for convenience and clarity.

(iii) The start or termination of an activity is represented by code or a circle.

(iv) Arrows originated at an event indicate activities that can begin only when all the activities terminating at that event have been completed.

(v) If an event takes precedence over another but there is no activity to connect them, a dummy arrow represented by dotted line is used.

(vi) For clarity, thick arrows or different colored arrows are used to show critical path activities after they have been identified through analysis.

(vii) Events are distinguished by numbers. No two events can have same number. Each event, which indicates termination of an activity, has higher number than the event which indicates start of the same activity.

e) Critical Path. On the basis of analysis, critical activities are determined. These are represented by a critical path which shows that if activities on this path are not completed in time, the entire project will be delayed by the amount the event is delayed. Thus based on estimates the earliest or latest start time of an activity can be calculated.

Activity C:

1. Define and arrange in logical sequence the activities required to perform in purchasing a personal computer by a large scale organization and construct a network diagram for the same.

6.5 Components of Planning

There are a number of different facets or components of planning. They are also called types of plans. They encompass the scope of planning. The major types of management plans along with their components can be classified as follows :

A. Strategic plans

These are designed to meet the broad objectives of the organization. These are concerned with broad matters that vitally affect development of an organization. They are prepared at the institutional level. They include mission or purpose, objectives and strategies.

B. Standing Plans

These plans are used over and over again. Once established, standing plans provide on going guidance for performing recurring activities. Similar situations can be handled in a predetermined way. Thus, they save the time used for making decisions. Examples of such plans are policies, procedures, methods, rules and regulations.

C. Single use plans

These plans are designed to achieve specific goals. They are developed to meet unique situations or problems. They are used but once and discarded. Programme, projects, budgets, quotas schedules, and standards are examples of single use plans.

1. Missions or Purpose

Mission or purpose is a primary and overall objective of an organization. It is the basic function or task of an enterprise which is assigned to it by society. It is organizations reason for existence determined by its founders, owners, or board of directors. In fact, purpose or mission is a definition of the organization. The mission indicates the firm's identify. It provides directions and guidelines for constructing goals and strategies at various organizational levels. The objectives are derived from purpose.

Mescon and Albert observe, "Without a mission as a guide, managers would have nothing but their individual values." In brief the purpose or mission of an organization must convey the following

a) The existence of the firm – it means what business is the firm in?
b) The external environment that determines the operating philosophies of the firm
c) The organization culture

2. Objectives or goals

Objectives or goals are the ends towards which all organizational activities are aimed. Koontz and O'Donnell state," The represent not only the end point of planning but the end towards which organizing, staffing, leading and controlling are aimed." Objectives decide where we want to go. They are the results to be achieved. They are the performance targets. In brief, objectives and goals are preferred results or ends towards which all organizational action is directed.

Goals and objectives are often used interchangeably but a few writers make a distinction between them. Objectives are broad outcome that managers hope to achieve ultimately. Goals are more specific and concrete in nature and often include active schedule for the completion of a task. For example profitability may be the objective, but the specific goal is to earn 20 per cent net retur.. on capital employed.

- Characteristics – according to Hicks and Gullett, objectives possess the following characteristics.

a) Objectives are structured in a hierarchy
b) They reinforce individual objectives, and vice versa
c) They are complementary with individual objectives
d) Higher level objectives contain subordinate objectives.
e) They are influenced by the aspiration of mangers
f) They reflect a desired end result of organization actions

- Importance – the importance of clearly defined objectives is recognized in the following way.

1) Objectives are necessary for unified planning and coordinated effort
2) They serve as reference points for the efforts of the organization.
3) They help to compete effectively and to grow.
4) They provide motivation to people in the organization
5) They define the destination of the organization
6) Objectives are prerequisite to determining sound policies, procedures, and strategies
7) They are yardsticks for measuring and evaluating performance
8) Objectives can be good motivators
9) They provide direction and serve as standards
10) They produce consistency in decentralized decision making

- Sound objectives and goals must have the following features

a) Objectives should be specified and measurable
b) Objectives should be time oriented. They should have specific time horizon.
c) Objectives must be attainable
d) They should focus on results, not on activities
e) They should be challenging but realistic
f) They must be set by the people responsible for accomplishing them, wherever possible
g) Multiple objectives must be mutually supportive

3. Strategies

The term strategy was first used in the military to describe the grand plan for winning a war. In recent times, it is widely applied to business. According to Hicks and Gullett strategy is "the basic pattern of purposes and policies that define the firm and its business. Andrew Szilagyi defines strategy," as a comprehensive and integrated frame work that guides those choices that determine the nature and direction of the organization's activities towards goal achievement". H. Igor Ansoff, a leading expert, says, basically strategy is a set of decision making rules for guidance of organizational behavior.

Thus, strategy refers to two things – the overall goal or mission and the means by which the goals will be achieved. Strategy has the following features.

a) Strategy is a general Programme of action. It reflects broad overall concepts of an enterprises operation.
b) It is an "interpretative planning"
c) It is an action plan to achieve goals in the light of environmental forces
d) It involves a choice of particular actions or activities
e) Strategy sets direction. It must be formulated before plans are made.
f) It implies a deployment of emphasis and resources. It guides enterprise thinking and action.
g) Strategy has a competitive implication. Its purpose is to achieve success in a competitive environment.
h) Corporate strategy is not statistic, but evolves over time. It has to be dynamic. Hicks and Gullett state, "A strategic plan is the intended relationship between the firm and its environment.

Strategy guides managers in setting priorities and taking actions to achieve objectives. Strategic plan is the system though which resources are organized and directed to achieve the strategic goal.

4. Policies

General statements or understanding that guide decision making are called policies. Policies define the boundaries within which decisions can be made. They direct decisions towards the achievement of objectives. According to Terry, "Policies spell out the sanctioned, general direction and areas to be followed"

- Features – Policies have the following features

1) Policies direct the thinking, behaviors and actions of employees.
1) Policies may be implied even from the actions of managers or from the practice of enterprise
2) They may be interpreted as standing orders or standing guidelines for decision making.
3) Policies allow for some desertion and initiative, but within limits
4) Policies define the area in which decisions are to be made, but they do not give the decision.
5) They flow from strategies. They are narrower in scope that strategies.

6) Policies have at least as many levels as organization. ranging from broad company policies to minor policies of a small section.

7) They may also be related to functions – such as production. sales. finance or engineering.

- Function and importance of a sound policy : Sound policies have great value in smooth functioning of an enterprise. They tell managers what to do and create a better understanding of work. Policies have great importance in predicting action. They encourage sound judgment and "force positive. wanted action." They facilitate the performance of managerial functions. According to R.C.C Davis. policies provide the following benefits

1) Policies give meaning to the organizational goals
2) They prevent deviations from planned courses of action
3) They secure uniformity in performance
4) They facilitate coordination of action
5) They foster initiative and confidence
6) Policies are guides to thinking in decision making and planning.
7) They prevent bad action and promote the quality of execution action.

Policy making is the task of all the managers. A sound and clearly defined policy is essential for efficient performance. Policy formulation is a vital phase of hte planning process.

- Prerequisites for a Sound Policy

a) It must contribute to the organizational objectives
b) It should be uniform in its application. offering equity and justice to all
c) A policy should permit interpretation
d) It should be expressed in definite and precise wording
e) It must prescribe criteria for current and future action
f) A policy should be built from facts. and not from opportunities decisions
g) It should be broad enough to cover a range of actions
h) It should be in harmony with external environment. It must confirm to laws and public interest.

- Types of policies : Like plans and objectives. policies are also formulated at all levels in an organization. They are classified on various bases. One important classification of policies is done on the basis of organization objectives as:

a) Basic policies – These are broad guidelines applicable to the entire concern
b) Departmental policies – these are meant for departmental decisions and are more specific
c) Operational or minor policies= which are applicable to the operations of units within the various departments

Another common classification of policies is by major function of an enterprise. namely production policies. financial policies and personnel policies. Glover has mentioned three kinds of policies as (1) charter policies (2) general policies and (3) operational policies.

5. Procedures

Policies are carried out by means of procedures. A procedure is a detailed set of instructions for performing a sequence of actions. It is a customary method of handling activities. It provides the exact manner in which a certain activity must be accomplished. Terry defines a procedure as "a series of

related tasks that make up the chronological sequence and the established way of performing the work to be accomplished. "Well established formalized procedures are called standard operation procedures.

- Characteristics of procedures

1) A procedure has a chronological sequence of tasks or actions
2) A procedure is specific and tailor made to achieve certain task
3) Procedures exist in every part of an organization
4) They spell out actions in detail
5) They are truly guides to action, rather than to thinking
6) Procedure often cut across department lines. That is, they may encompass various departments
7) They should be based on facts
8) Procedures should be table. They should have logical sequence

Examples of procedures include how customer orders are to be handled, recruiting procedures, loan procedure, and so on. A procedure has the following advantages.

a) It ensures uniformity of action
b) It saves managerial effort because it decreases the need for further decision making
c) It prescribes one best way and thus, increases efficiency.
d) It facilitates delegation of authority and placement of responsibility
e) It serves as a tool of managerial control and aids in coordination.

- Differences between policies and procedures

1. **Guidance:** Procedures are guides to action while policies are guides to thinking as well as to actions.
2. **Decision levels:** Policy is generally determined at higher levels, whereas procedures are formulated at lower levels of management.
3. **Position:** Policies occupy a higher position in hierarchy than procedures. In fact, procedures are reflection of policy. McFarland writes, "Procedures are always subordinate to policy, and policy making is a superior order of activity in executive responsibility.
4. **Strategic or tactical:** policies form part of the organization's strategies. But procedures are tactical, they are operational tools for efficient performance of routine activity.
5. **Flexibility :** Policies are relatively flexible while procedures are more determinative
6. **Role:** Polices serve as bridges between organizational purpose and performance. Procedures, on the other hand, are links between activities and outcomes.
7. **Objectives and path:** "Policy always sets an objective or delimits an area of action, while procedure fixes a path towards the objective or through the area. Sequence is the essential element of procedure" (Goetz)
8 **Method** :Method is the best way the job is to be performed. It deals with a task comprising one step of a procedure. It specifies how this one is to be performed. According to L.E. Bryant, "Method is the manner of proceeding in the performance of work."

It should be noted that a method is more limited in scope than a procedure. Procedure involves a series of steps to be taken while a method is only concerned with a single operation with one particular step. But fundamental to every action, a method is even more detailed as compared to a procedure.

6. Rules

Rules are standing plans that guide actions. They specify what actions will be taken or not taken and what behavior is allowed or prohibited. Rules are a particular way of behaving in a particular situation.

Generally, rules are all restrictive and leave little room for discretion. They are not guides for thinking or decision making; rather they are substitutes for them. "No smoking" is an example of a rule.

- Rules differ from a policy, procedure, or method : A rule is different from a policy in many ways (a) policies are broader and are stated in more general language. Rules are the narrowest of plans dealing with specific actions or approved behaviors. (b) Policies may be flexible, whereas rules allow no discretion in their application. (c) Rules are usually applied by specific and stated penalties. But policies allow a wider scope for disciplinary action (d) policy establishes a guiding frame work. Rules are devised or must work within this framework.

There are also basic differences between procedures and rules. Rule is related to a procedure, because it guides action. But it is not a procedure because it specifies no time sequence to a particular action. Secondly, a procedure is a sequence of rules. But a rule may or may not be a part of a procedure.

Rules are also different from methods (i) Methods are meant for efficient performance of tasks. Rules, one the other hand, are in the nature of warnings, principles or norms. (ii) Methods improvement may call for standardization of the related working conditions. To frame rules, no such standardization of conditions is needed (iii) Rules are often enforced officially or formally. They are authoritative and are part of control procedures. Methods are generally free from such bindings. They are scientific and logical means of ensuring better performance. (iv) Violation of rules is viewed seriously and requires imposition of penalty. On the other hand, deviation from methods is not taken seriously because sometimes methods may depend upon the employees' experience and knowledge (v) methods are physical and tangible to a greater degree as they relate to tasks and tools. Rules relate to individual and group actions in a particular situation.

7. Programme

A Programme is a comprehensive plan that covers a relatively large set of activities. It consists of a complex set of goals, policies, procedures, rules, job assignments and resources required to implement them. Programme usually include the following steps

a) starting what is to be done into different parts or units of the organization
b) determining the relationships among the parts and developing a sequence of steps required to reach an objective
c) Deciding the responsibility for each step and for each unit.
d) Determining the financial, physical and human resources to be employed
e) Determining capital and operating budges
f) Developing the order and time schedules for each step

Commitment of resources, coordinating and timing of steps are essential elements of a Programme. A primary Programme may call for many derivative Programme.

8. Projects

A project may be either a component of a general Programme or it may be planned separately on a smaller scale. Each project has its own assignments, time and budget. Sometimes, individual segments of a general Programme can be planned and implemented as distinct projects. William Glueck defines, "A project is a Programme with less significant objectives, generally a shorter period of time, and usually less detail." There is a significant difference between Programme and projects. Programme can be repeated while projects have one time applications. A project to build rest rooms or to fence dangerous

machines may be part of a larger Programme to improve working conditions. Project is a flexible type of plan that may be adapted to a variety of situations. Each project becomes the responsibility of certain personnel who are given specific resources and deadlines.

9. Budget

A budget is a plan which expresses the anticipated results in numerical terms. It is merely a collection of figures or estimates that indicate the future in financial terms. According to Terry, "A budget is an estimate of future needs, arranged according to an orderly basis, covering some or all of the activities of an enterprise for a definite period of time." It is a statement of planned revenue and expenditure. A budget may be stated in time, materials, money, or other units.

Budgets are important device of planning, controlling and coordinating the activities. They are the most common form of communicating objectives. They show the future of the company in financial terms. Hence, sometimes budges are called numberized Programme. Budgets are prepared for various groups of activities.

10. Quota

Quota is a set goal for sales or other activities. It is the share one is bound to contribute to or entitled to receive from a total. A quota is a limit placed on the amount or units of sales, production, profit or other activities.

Quotas are set in the field of sales, markets or sales territories. For example, every sales territory carries an assigned quota indicating its contributions to profit and volume and its sales activity requirements. Quotas are important aspect of a company's operational plan.

11. Schedules

Schedules are important part of operational plans. Schedules are used to plan the timing and sequencing of the use of resources and for the work to be executed. Schedules are the basis of an action plan. A scheduling sets the exact time when each activity would start and when it would end. Schedules permit managers to see how the various segments of operations interrelate and to evaluate the overall progress of project.

12. Standard

A standard is an important element of plan. It is a norm against which performance is compared and evaluated. Terry defines it as "a unit of measurement established to serve as a criterion or level of reference. A standard forms the basis of controlling and serves as guide for performance. It brings uniformity in work. Standards assist in settling disputes because they may serve as base levels.

They are essential in planning schedules and determining the proper use of resources. Qualitative and quantitative standards are set in various areas of business such as cost standards, quality standards, product standards, material standards, performance standards etc.

6.6 Summary

Planning is a particular type of decision making that addresses the specific future that managers desire for their organization. Planning is the first of the four major activities of the management process; planning, organizing, leading and controlling. We might think of planning as locomotive that drives a train

of organizing, leading and controlling activities. Planning is not a single event, with a clear beginning and end. It is an ongoing process which reflects and adapts to changes in environment surrounding each organization. In organization planning is the process of setting goals and choosing means to achieve these goals for which different tools and techniques are available and used. In order to formulate accurate plans, managers have to predict the prospective changes in behavior of various related factors in future. This can be effectively done by making suitable forecasts using appropriate forecasting techniques.

6.7 Self Assessment Questions

1. Define planning. Discuss various steps involved in planning process.
2. Describe different types of plans and arrange them in hierarchy form.
3. What do you mean by forecasting? How is it related to planning?
4. Discuss various forecasting techniques.
5. "Forecasts are estimates of future condition". Comment on importance of furcating.
6. What is planning? Explain different planning techniques.
7. How planning differ from forecasting?
8. What is MBO? Describe the process of MBO.
9. Discuss Linear Programming as a planning technique for optimum allocation of resources.

6.8 Reference Books

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