

# **ATME COLLEGE OF ENGINEERING**

**13th KM Stone, Bannur Road, Mysuru - 570 028**



## **DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING**

### **NOTES**

#### **Engineering Management and Entrepreneurship**

**Course Code: BEE501**

**Semester: V**

# **INSTITUTIONAL VISION AND MISSION**

## **VISION:**

- Development of academically excellent, culturally vibrant, socially responsible and globally competent human resources

## **MISSION:**

- To keep pace with advancements in knowledge and make the students competitive and capable at the global level.
- To create an environment for the students to acquire the right physical, intellectual, emotional and moral foundations and shine as torchbearers of tomorrow's society.
- To strive to attain ever-higher benchmarks of educational excellence.

## **Department Vision and Mission**

### **Vision:**

To create Electrical and Electronics Engineers who excel to be technically competent and fulfill the cultural and social aspirations of the society.

### **Mission:**

- To provide knowledge to students that builds a strong foundation in the basic principles of electrical engineering, problem solving abilities, analytical skills, soft skills and communication skills for their overall development.
- To offer outcome based technical education.
- To encourage faculty in training & development and to offer consultancy through research & industry interaction.

### **Program Educational Objectives (PEOs)**

PEO1: To produce competent and ethical Electrical and Electronics Engineers who will exhibit the necessary technical and managerial skills to perform their duties in society.

PEO2: To make Graduates continuously acquire and enhance their technical and socio-economic skills.

PEO3: To aspire Graduates on R & D activities leading to offering solutions and excel in various career paths.

PEO4: To produce quality engineers who have the capability to work in teams and contribute to real time projects.

### **Program Outcomes (POs)**

**Engineering Graduates will be able to:**

**PO1: Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

**PO2: Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**PO3: Design / Development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**PO4: Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**PO5: Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

**PO6: The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**PO7: Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**PO8: Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO9: Individual and team work:** Function effectively as an individual and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO10: Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**PO11: Project management and finance:** Demonstrate knowledge and understanding of the engineering management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**PO12: Life-long learning:** Recognize the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

### **Program Specific Outcomes (PSOs)**

The students will develop an ability to produce the following engineering traits:

PSO1: Apply the concepts of Electrical & Electronics Engineering to evaluate the performance of power systems and also to control industrial drives using power electronics.

PSO2: Demonstrate the concepts of process control for Industrial Automation, design models for environmental and social concerns and also exhibit continuous self- learning.

## **Module-1**

### **Syllabus:**

#### **Management**

1. Definition
2. Importance - Nature and Characteristics of Management
3. Management Functions
4. Roles of Manager
5. Levels of Management
6. Managerial Skills
7. Management & Administration
8. Management as a Science, Art & Profession

#### **Planning:**

1. Nature, Importance and Purpose of Planning,
2. Types of Plans
3. Steps in Planning
4. Limitations of Planning

#### **Decision Making :**

1. Meaning
2. Types of Decisions
3. Steps in Decision making.

## **Chapter (a): Management**

### **1. Definitions of Management:**

- Management is a multipurpose organ that manages business, manages a manager and manages workers and work- Peter Drucker
- Management is to forecast and to plan, to organise, to command, to co-ordinate and to control- Henry Fayol
- Management is the process of planning, organising, leading and controlling the efforts of organisation members and of using all other organisational resources to achieve stated organisation goals- James A F Stoner.

#### **1.1 Management is a process:**

- A process is defined as systematic method of handling activities.
- Often we hear the statements “that company is well managed” or “the company is miss-managed”.
- These statements imply that management is some type of work or set of activities, these activities sometimes performed quite well and some times not so well.

- These statements imply that management is a process involving certain functions and activities that managers perform.

## **2. Importance-Nature & Characteristics of Management**

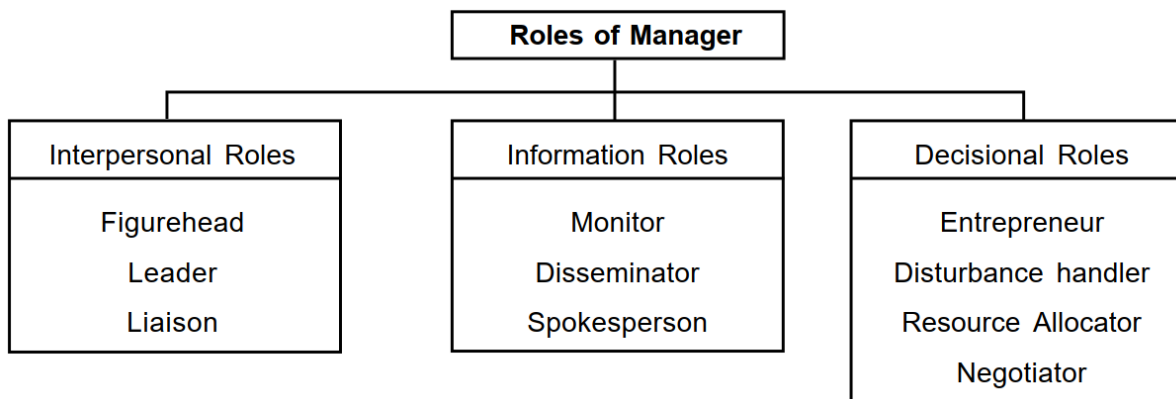
- Management is considered as universal process- Applied to all types of institutions- social, religious, political, military, commercial, bureaucratic etc.
- Management is goal oriented activity- The success of management is measured by the extent to which the desired objectives are achieved.
- Management is a social process: It deals with managing human beings and their emotions, talents, attitudes, culture, education etc.
- Management is a coordinating force-It combines individuals goals with organisational goals
- Management is intangible- It does not have physical force, its presence can be only felt by the results of its efforts
- Management is dynamic
- Management is multidisciplinary
- Management is a creative activity
- Management is decision making
- Management is a profession

## **3. Functions of Management**

- Forecasting- Estimation of future events. Sales forecast is usually followed by production forecast and forecasts for costs, finance, purchase, profit or loss.
- Planning- Preparation for action. It anticipates and analyses all the difficulties that are encountered in running the business and decides in advance how these difficulties can be overcome.
- Organization- *The process of organising involves the following steps:*
  - ✓ Determining all activities required to achieve company objectives
  - ✓ Division or grouping of all these activities
  - ✓ Selecting people for particular jobs and defining their responsibilities
  - ✓ Giving people enough authority to carry out their responsibilities.
- Staffing-Staffing means filling up positions in the organization by appointing competent and qualified persons for the jobs. It involves:
  - ✓ Recruitment
  - ✓ Selection
  - ✓ Placement
  - ✓ Training
  - ✓ Development of personnel
  - ✓ Developing system for salary structure
  - ✓ Evaluating employee performance (Appraisal)

- Directing and motivating- Directing involves guiding and supervising the subordinates in their activities. Motivating means inspiring people to increase their desire to perform duties effectively to achieve company goals
- Coordinating- There can be many departments and a large number of workers working at various levels. Hence coordination is an orderly arrangement of group of effort to provide unity of action. It can be achieved with the tools such as : Clear cut objectives, Effective communication between various levels of workers
- Controlling- Controlling means setting standards, measuring actual performance and taking corrective action if necessary.
- Leadership- It is the ability of an individual or a group of individuals to influence and guide members of an organization.
- Decision making- It is the course of action chosen from available alternatives.
- Communication-It is a process by which instructions are transmitted, received and understood by people working in the organization.

#### **4. Role of Management**



**Interpersonal role:** This role is concerned with his interacting with people both organizational members and outsiders. There are three types of interpersonal roles:

- (1) **Figure head role:** In this role manager has to represent organization in formal matters such as attending social functions of employees, taking an important customer to lunch and so on.
- (2) **Leader role:** Manager's leader role involves leading the subordinates motivating and encouraging them.
- (3) **Liaison:** In liaison role manager serves as a connecting link between his organization and outsiders.

**Information roles:** It involves communication. There are three types of informational roles:

- (1) **Monitor:** In his monitoring role, manager continuously collects information about all the factors which affects his activities. Such factors may be within or outside organization.

**(2) Disseminator:** Manager is transmitting information within organization between top management to lower cadre and vice versa.

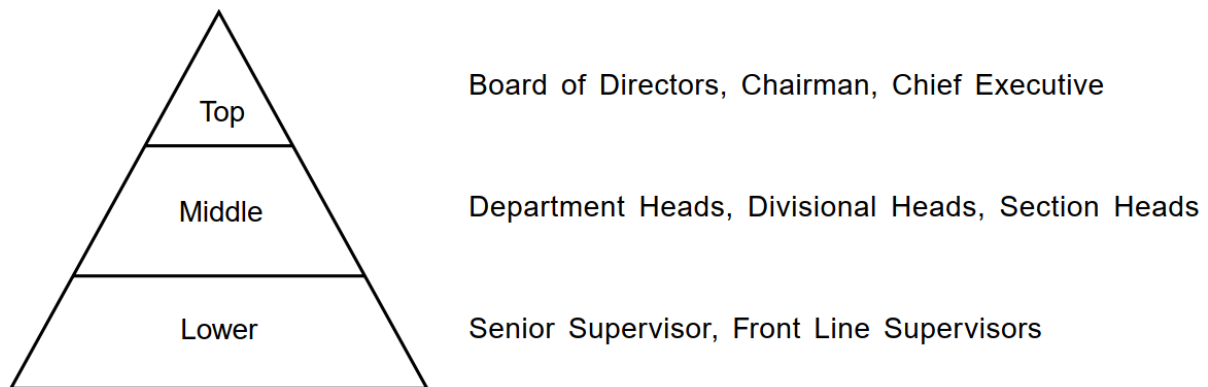
**(3) Spokesperson:** As a spokesperson manager represents his organization while interacting with outsiders like customers, suppliers, financiers, government and other agencies of the society.

**Decisional roles:**

- 1) **Entrepreneur:** As an entrepreneur, a manager initiates projects to improve the organization, encourages new ideas and innovations, brings in changes and looks for sources of funds.
- 2) **Disturbance handler:** In this role manager works like a fire-fighter manager contains forces and events which disturb normal functioning of his organization. The forces and events may be employee complaints and grievances, strikes, shortage of raw materials etc.
- 3) **Resource Allocator:** The manager allocates resources to particular areas in the best interests of the organization.
- 4) **Negotiator:** In his role of negotiator, manager negotiates with various groups in the organization. Such groups are employees, shareholders and other outside agencies.

## **5. Levels of Management**

There are 3 levels of management.



### **1. Functions of Top Management**

- ✓ Determine the goals of the organization
- ✓ Establish policies
- ✓ Monitoring performance
- ✓ Judging the results

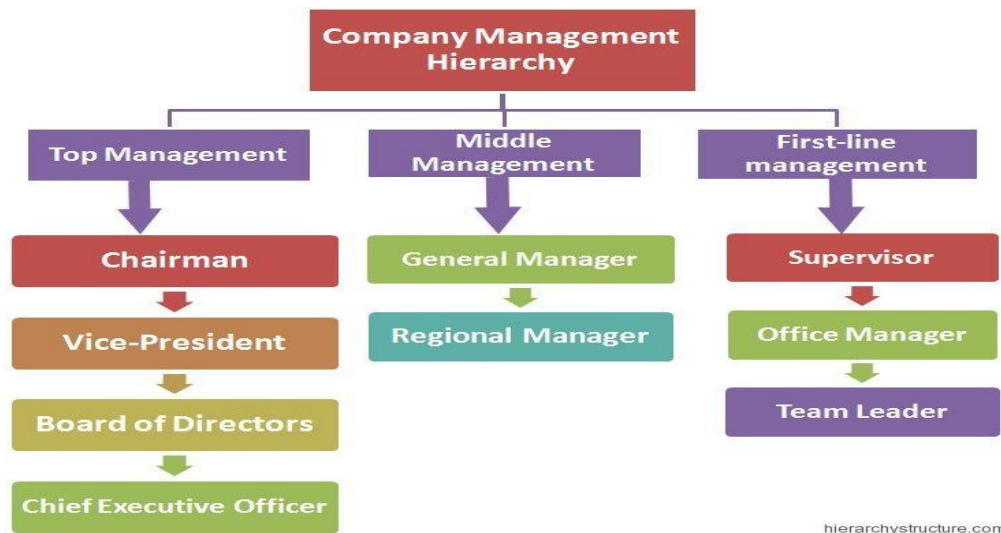
### **2. Functions of Middle Management**

- ✓ To plan details of all operations
- ✓ To cooperate with top management for the smooth functioning of organization.
- ✓ To coordinate between various departments
- ✓ Developing man power for the organization by imparting training

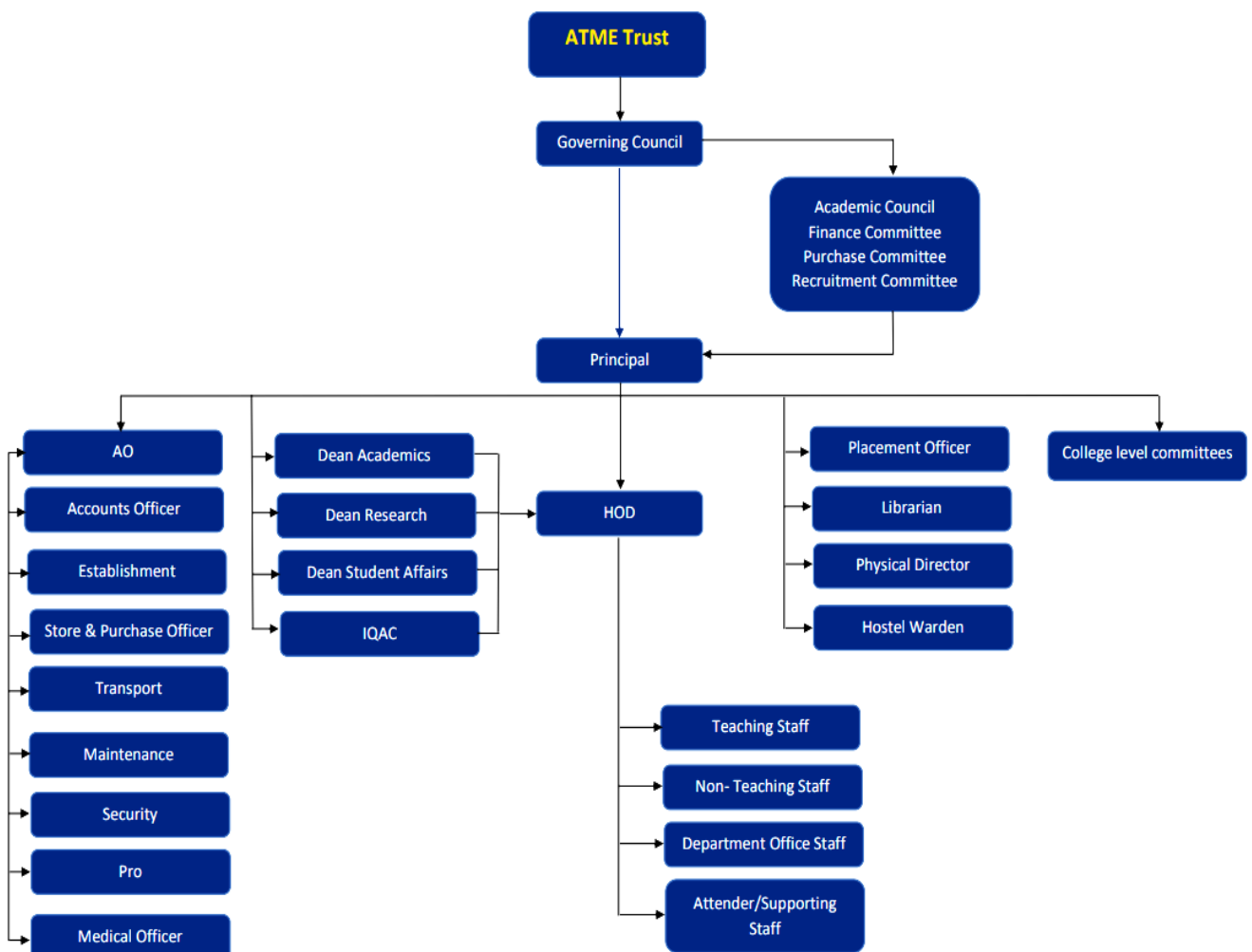


### 3. Functions of Lower Level Management

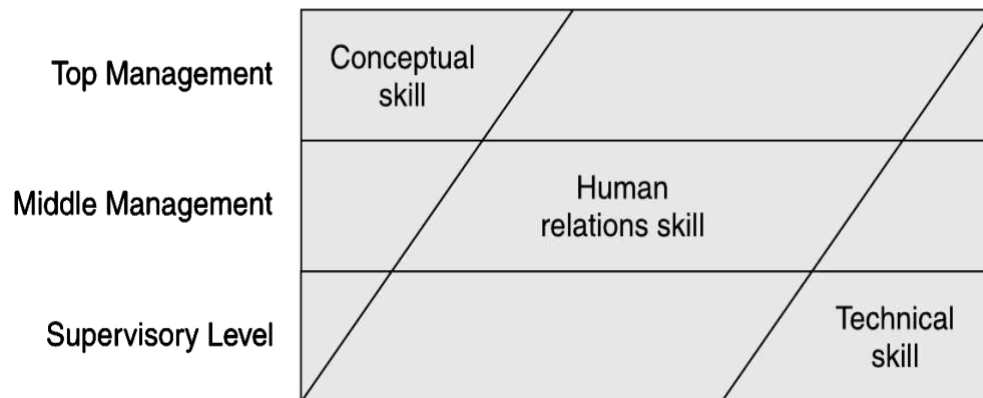
- ✓ To plan day-to-day production within the goals laid down by higher authorities.
- ✓ To assign jobs to workers to make arrangements for their training & development.
- ✓ To act as a link between management and the workers
- ✓ Direct supervision of workers and their work
- ✓ Arrangement of material, tools, facilities etc, for production



Example: ATMECE Trust



## 6. Managerial Skills



**Fig. 1.3** Skill-mix at different management levels

A manager should possess three major skills.

1. Conceptual skill
2. Technical skill
3. Human relations skill

**Conceptual skill:** Ability to think- Conceptualise the environment, the organisation and his own job in order to set appropriate goals for the organisation, himself and team.

**Technical skill:** It refers to a person's knowledge and proficiency in any type of process or technique. It includes an understanding of the technicalities of the process of production

**Human relations skill:** It is the ability to interact effectively with people at all levels

## 7. Management & Administration

Let us consider the following 3 cases:

- Administration is above management
- Administration is part of management
- Management & administration are same

### Case-1: Administration is above management

“**Administration** is that phase of business enterprise that concerns itself with the overall determination of institutional objectives & policies necessary to be followed in achieving those objectives.

“**Management** on the other hand is an executive function which is primarily concerned with carrying out broad policies laid down by administration”

Table: 1.4: Differences between administration and management

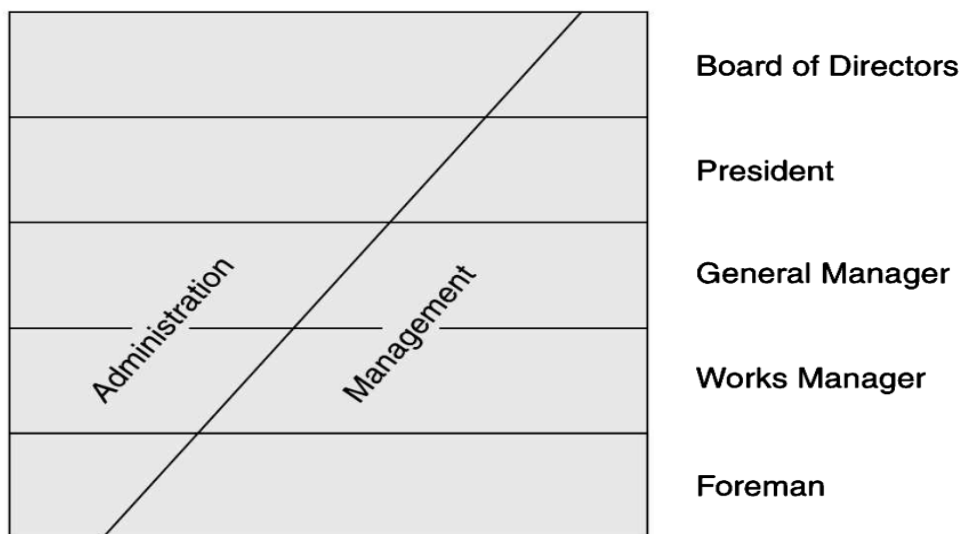
Bas is of difference	Adminis tration	Management
1. Level of organization	Top Level	Middle and Lower Level
2. Major focus	Policies formulation and objective determination	Policies execution for objectives achievements
3. Nature of function	Determinative	Executive
4. Scope of functions	Broad & Conceptual	Narrow & Operational
5. Factors affecting decision	Mostly external	Mostly internal
6. Employer – Employee relation	Entrepreneurs & Owners	Employee
7. Qualities required	Administrative	Technical

**Case-2: Administration is part of management**

- Administration is that part of management which is concerned with the installation and carrying out of procedures by which it is laid down and communicated, and the process of activities regulated and checked against plans.
- According to this view, administration become a subordinate function to overall management function.

**Case-3: Management & administration are same**

- According to the third approach which is the most popular and practical one, management and administration are same. Both involve the same functions, principles and objectives.
- The term administrator found its origin in bureaucratic structure of government or in regulation of some laws.



**1.4 Time spent in administrative and managerial functions at different levels**

## **8. Management: A Science or Art or Profession**

- It is an art in the sense of possessing of managing skill by a person.
- It is a science also because of developing principles or laws which are applicable in a place where a group of activities are coordinated.
- In fact management is both science and art as it clear from the following discussion.

### **Case-1: Management: A Science:**

- **Management as science:** Science is a systematized body of knowledge. We call a discipline, scientific if its
  - ✓ Methods of inquiry are systematic and empirical.
  - ✓ Information can be ordered and analyzed
  - ✓ Results are cumulative and communicable.
- Science is an organised collection of knowledge that emphasises definite universal truths or the action of comprehensive laws. The central characteristics of science are as follows:
  - ✓ **The organised body of knowledge:** Science is a precise entity of knowledge. Its systems are based on a purpose and consequence association.
  - ✓ **Universal validity:** Scientific conventions have global genuineness and application.
  - ✓ **Systems based on experimentation:** Scientific conventions are originally formed via research and then tested via repeated trial and error under the regulated situations
- Science denotes two types of systematic knowledge; natural or exact and behavioural or inexact.
- In exact or natural science (such as physics and chemistry) we can study the effect of any one of many factors affecting a phenomenon.
- For example, we can study in the laboratory, the effect of heat on density by holding other factors (like humidity, pressure etc.) constant, whereas in behavioural or in exact science it is not possible.
- In management we have to study man and number of factors affecting him.
- For example, we cannot study the effect of monetary incentives on workers productivity, because in addition to monetary incentives other inseparable factors like leadership styles, workers need hierarchy and leadership styles will also have simultaneous effect on productivity.
- At the most we may get only rough idea of the relationship between monetary incentives and productivity. Therefore, management is in the category of behavioural science.

### **Case-2: Management: A Art**

- Management is the art of getting things done through others in dynamic situations.
- A manager has to coordinate various resources against several constraints to achieve predetermined objectives in the most efficient manner.
- Manager has to constantly analyze the existing situation, determine objectives, seek alternatives, implement, and control and make decision.

- The theoretical lessons on principles, concepts and techniques learnt by a manager in classroom is not enough to get the aimed results unless he possess the skill (or art) of applying such principles to the problems.
- The knowledge has to be applied and practised. It is like the art of musician or painter who achieves the desired results with his own skill which comes by practice.
- Art is the experienced and personal utilisation of subsisting information to accomplish solicited outcomes. It can be procured via education, research and practice. As art is involved with the personal utilisation of data some kind of inventiveness and creativity is needed to follow the fundamental systems acquired. The essential characteristics of art are as follows:

- ✓ **The presence of theoretical knowledge:** Art assumes the presence of specific academic knowledge. Specialists in their particular fields have obtained specific elementary postulates which are appropriate to a specific sort of art. For instance, the literature on public speaking, acting or music, dancing is publicly acknowledged.
- ✓ **Personalised application:** The application of this primary information differs from person to person. Art, hence, is a highly personalised notion.
- ✓ **Based on custom and creativity:** Art is practical. Art includes the creative practice of subsisting intellectual knowledge. We know that music is based on 7 notes. However, what makes the style of a musician different or distinctive is his performance of these notes in an artistic way that is uniquely his own solution.

*Examples of being an artist: Dancer, Potter, Musician, Director, Actor, Designer etc. all are artist in their respective fields. A manager is also an artist as he applies his personal knowledge and experience to get the work done from his subordinates.*

- Management uses both scientific knowledge and art in managing an organization. As the science of management increases so should the art of management. A balance between the two is needed.

### **Case-3: Management: A Profession**

- According to McFarland, “**Profession**” possesses the following characteristics:
  - (1) Existence of an organized knowledge.
  - (2) Formalized method of acquiring training and expertise.
  - (3) Existence of professional association.
  - (4) Existence of an ethical code to regulate the behaviour.
  - (5) Charging of fees based on service with due regard to social interest.
- However, ‘professionalization’ of management started and it is essential nowadays to acquire some professional knowledge or training. In this regard government of India has started six national institutes of management and a number of universities and institutions are offering MBA programmes.
- The profession can be described as an occupation upheld by specific education and practice, in which entry is limited. A profession has the following features:

- **The well-defined theory of knowledge:** All services are based on a well-defined form of education that can be procured through education.
- **Restricted entry:** The entrance to a profession is defined through an examination or through obtaining an educational degree. For instance, to become a chartered accountant in India an aspirant has to clear a detailed examination regulated by the Institute of Chartered Accountants of India (ICAI).
- **Professional community:** All professions are affiliated to a professional association which controls entry, presents a certificate of training and expresses and supports a system of government. To be qualified to study in India, lawyers have to become members of the Bar Council which monitors and regulates their actions.

## **Chapter (b): Planning**

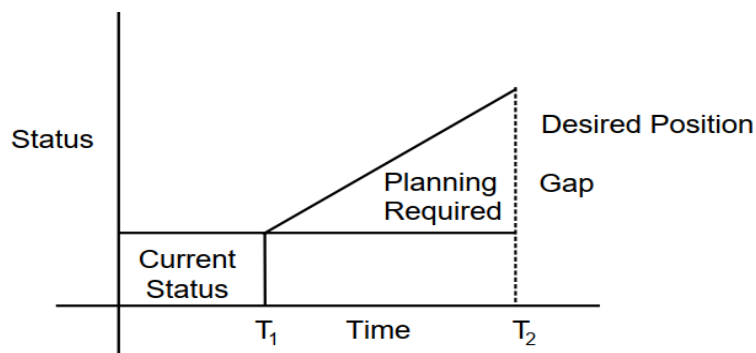
Planning: According to Koontz and O'Donnel "Planning is deciding in advance what to do, how to do it, when to do it and who is to do it. It bridges the gap from where we are and to where we want to go. It is in essence the exercise of foresight".

### **1. Nature, Importance and Purpose of Planning**

**Nature of Planning:** The nature of planning may be understood in terms of it being a rational approach, open system, flexibility and pervasiveness.

#### **i. Planning: A Rational Approach**

- Planning is a rational approach for defining where one stands, where one wants to go in future and how to reach there.
- Rationalist denotes a manager chooses appropriate means for achieving the stated objectives, rational approach fills the gap between the current status and future status.
- The difference between two time periods  $T_1$  and  $T_2$  may be as long as 5 years or as short as one year.



**Fig. 2.1:** Planning for bridging current & desired

#### **ii. Planning: An Open System Approach**

- Planning adopt an open system approach.

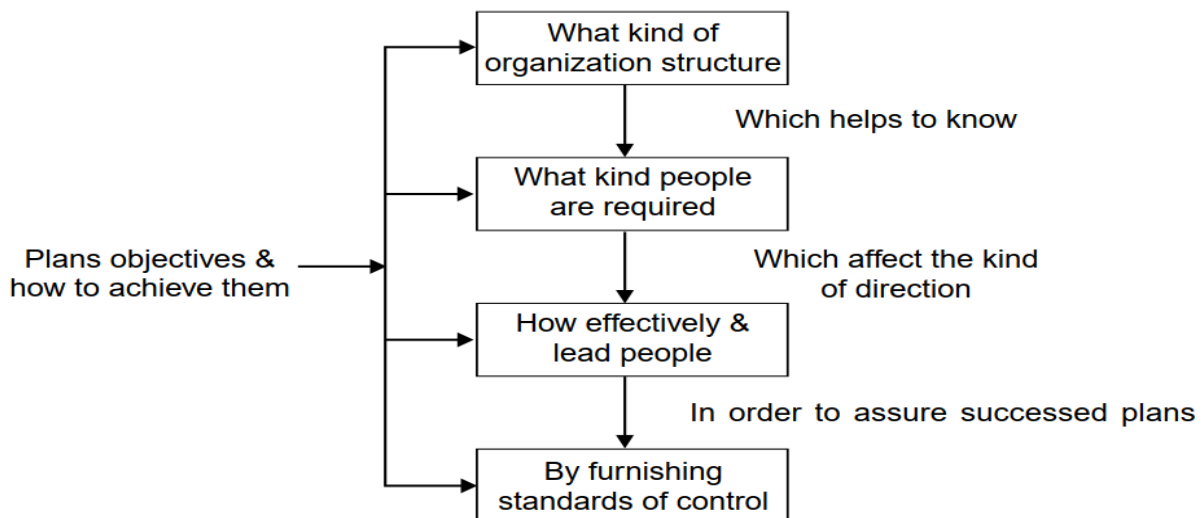
- Open system approach indicates that the gap between current and desired status and the action required to bridge this gap is influenced by a variety of environmental economic, legal, political, technological, socio-cultural and competitive factors.
  - These factors are dynamic and change with time.
- iii. Flexibility of Planning:
- The plans must be flexible to adapt to changes in technology, market, finance, personal and organizational factors.
- iv. Pervasiveness of Planning:
- Planning is pervasive and it extends throughout the organization.
  - Planning is the fundamental management function and every manager irrespective of level, has a planning function to perform within his particular area of activities.

### **Importance of Planning**

Planning is of great importance in all types of organization whether business or nonbusiness, private or public, small or large. Planning is important because of the following reasons.

***i. Primacy of planning:***

Planning is the first and foremost function of management, other functions follow planning. Planning establishes the objectives and all other functions are performed to achieve the objectives set by the planning process as shown



**Fig. 2.3: Primacy of planning**

***ii. To minimize risk and uncertainty:***

- The organization continuously interacts with the external dynamic environment where there is great amount of risk and uncertainty.
- In this changing dynamic environment where social and economic conditions alter rapidly, planning helps the manager to cope up with and prepare for changing environment.
- By using rational and fact based procedure for making decisions, manager can reduce the risk and uncertainty.

**iii. To focus attention on objectives:**

- Planning focuses on organizational objectives and direction of action for achieving these objectives.
- It helps managers to apply and coordinate all resources of the organization effectively in achieving the objectives.
- The whole organization is forced to embrace identical goals and collaborate in achieving them.

**iv. To facilitate control:**

- Planning sets the goals and develops plans to achieve them.
- These goals and plans become the standards or benchmarks against which the actual performance can be measured. Control involves the measurement of actual performance, comparing it with the standards and initiating corrective action if there is deviation.
- Control ensures that the activity confirm to plans.
- Hence control can be exercised if there are plans.

**v. To increase organizational effectiveness:**

- Effectiveness implies that the organization is able to achieve its objectives within the given resources.
- The resources are put in a way which ensures maximum contribution to the organizational objectives.
- Effectiveness leads to success.

## 2. Types of Planning:

**Table 2.1: Types of planning**

Dimension	Types of planning
1. Coverage of activity	Corporate and functional planning
2. Importance of contents	Strategic and tactical/operational planning
3. Time period involved	Long term and short term planning
4. Approach adopted	Proactive and reactive planning
5. Degree of formalization	Formal and Informal planning

**Corporate and functional planning:**

- The planning activities at the corporate level which cover the entire organizational activities are known as corporate planning.
- The focus in corporate planning is to determine long term objectives as a whole and to generate plans to achieve these objectives bearing in mind the probable changes in dynamic environment.



**Strategic and operational planning:**

- Strategic planning sets future directions of the organization in which it wants to proceed in future.
- Strategic planning involves a time horizon of more than one year and for most of the organization it ranges between 3 and 5 years.
- Operational planning also known of tactical planning on the other hand involves deciding the most effective use of resources already allocated to achieve the organizational objectives.

**Table 2.2:** Differences between strategic and operational planning.

<b>Strategic planning</b>	<b>Operational planning</b>
1. It decides major goals and policies of allocation of resources to achieve these goals.	1. It decides the detailed use of resources for achieving these goals
2. It is carried at higher level of management.	2. It is carried at lower level of management.
3. It is long term.	3. It is short term.
4. It is based on long term forecasting considering the possible impact of political, economical, technological and competitive factors and is more uncertain.	4. It is generally based on past performance of the organization and is less uncertain.
5. It is less detailed.	5. It is more detailed.

**Long and short term planning:**

- The long term planning is strategic in nature and involves more than one year period and can extend to 15 to 20 years or so.
- Short term planning usually covers one year.
- Short term plans are made with reference to long term plans because short term plans contribute to long term plans.

**Proactive and reactive plans:**

- Planning is an open system approach and hence it is affected by environmental factors which keep on changing continuously.
- Proactive planning involves designing suitable courses of action in anticipation of likely changes of environment. Managers adopting proactive changes do not wait for environment to change, but take action in advance of environmental changes. For this, continuous scanning of environment is necessary.
- In reactive planning response comes after environmental changes take place. By the time organization responds to change in environment there may be further change in environment. Hence this type of planning is suitable in the environment which is fairly stable over a long period of time.

**Formal and informal planning:**

- Large organizations undertake planning in a formal way. Generally a separate corporate planning cell is formed at higher level. The cell is staffed by people of different backgrounds like engineers, economists, statisticians etc., depending upon the nature. This type of planning is rational, systematic, regular and well documented.
- Informal planning is undertaken generally by small organizations.
- This planning process is based on manager's experience, intuitions rather than based on systematic evaluation of environmental changes.
- This planning process is part of manager's regular activity and is suitable for small organizations.

**Types of Plans**

**1. Standing plans:**

- Standing plans are to be used over & again to lead to the development of policies, procedures, methods, rules and strategies.
- Standing plans are designed for situations that recur often enough to justify a standardize approach.
- Ex-bank designs a standing plan to process a loan application.

**2. Single use plans:**

- Single use plans are used in specific situations only to produce programmer & budgets.
- Single use plans are generally derived from standing plans.
- Ex-project, budgets, quotas, targets

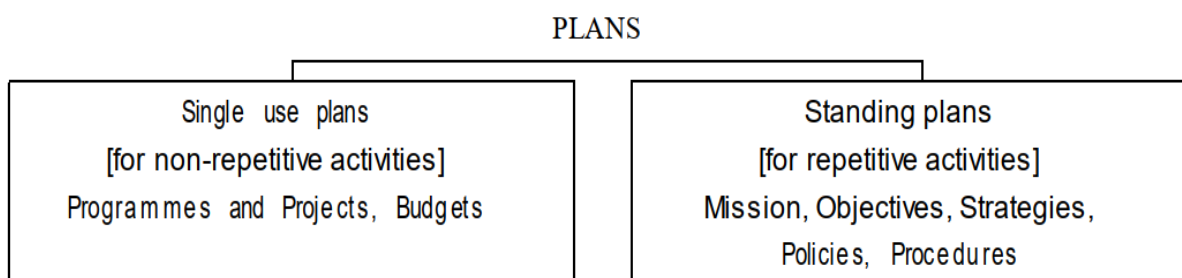


Fig. 2.3: Types of plans



Fig. 2.4: Hierarchies of plans

**Difference between standing and single use plans**

<b>Basis</b>	<b>Standing plans</b>	<b>Single use plans</b>
<b>Period</b>	They are formed for a long period.	They are formed for a short period and discarded when the assignment/project is over.
<b>Scope</b>	They have a wide scope as they involve the whole organisation in its scope.	They have a narrow scope and they are formulated for a specific project/assignment/situation.
<b>Frequency of use</b>	These are repetitive in nature.	They are one time plan, not used for recurring situations.
<b>Examples</b>	Policies, procedures, methods, etc	Objectives, budgets, etc.

### 3. Steps In Planning

**Establishing goals/objectives:**

- Set by upper level managers
- Objective set depends on the number of factors like mission of the organization, abilities of the organization
- Control process is very easy if the objectives are clearly defined.

**Establishing planning premises**

- Second step in planning
- Planning premises are planning assumptions—the expected environmental factors, pertinent facts and information relating to the future such as general economic conditions, population trends, competitive behavior etc.
- The planning premises can be classified as below:

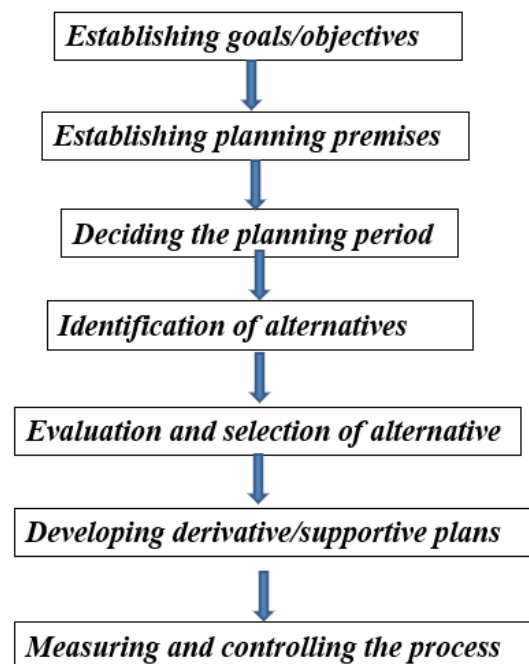
- (1) Internal and External premises.
- (2) Tangible and Intangible premises.
- (3) Controllable and non-controllable premises.

**Deciding the planning period:**

Once the long term objectives and planning premises are decided, the next task is to decide the period of the plan.

The factors which influence the choice of a period are:

- Lead time in development and commercialization of a new product



- Time required for recovering capital investment or the pay back period
- Length of commitment already made

**Identification of alternatives:**

- A particular objective can be achieved through various actions. For **example an organization's objective is to grow further which 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 organization

**Evaluation and selection of alternative:**

- Once the alternatives are identified the next step is to evaluate the alternatives in the light of the premises and goals and to select the best course or courses of action.
- This is done with the help of quantitative techniques and operations research.
- Software packages are available for evaluating alternatives.

**Developing derivative/supportive plans:**

- Once the plan is selected, various plans are derived so as it support the main plan.
- The derivative may be planning for buying equipments, buying raw material etc.
- These derivative plans are formulated out of the main plan and therefore, they support.

**Measuring and controlling the process:**

- Managers need to check the progress of their plans so that remedial action can be taken to make plan work or change the plan if it is unrealistic.
- Hence process of controlling is a part of any plan.

**LIMITATIONS OF PLANNING:-** Following are the limitations of planning:-

1. **LACK OF ACCURATE INFORMATION:-** The reliability of a plan depends upon facts & information on which it is based. If reliable information & dependable data are not available, planning is sure to lose its importance.
2. **LACK OF ACCURATE FORECAST:-** Planning concerns future activity & its quality will be determined by the quality of forecast of future events. No manager can predict completely & accurately the events of future, the plans may cause problems in operation.
3. **COMPLEX PROCESS:-** Planning is a complex & expensive process. It demands serious thinking, hard work & time. Some managers do not like to undergo such a complicated process as they like short-cuts. Such planning may not yield the desired results.
4. **RIGIDITIES:-** Planning may result in internal inflexibilities. By limiting individual freedom, planning may stifle initiative & personal development. Rigidities appear from managers negligence to revise the plan, policies & procedures.

## **Chapter (c) : Decision Making**

### **1. Meaning**

- Decision-making is the study of identifying and choosing alternatives based on the values and preferences of the decision maker.
- Decision-making is one of the central activities of management and is a huge part of any process of implementation.

### **MEANING OF A DECISION**

A decision is a choice between two or more alternatives. This implies three things:

1. When managers make decisions they are *choosing*—they are deciding what to do on the basis of some conscious and deliberate logic or judgement.
2. Managers have *alternatives* available when they are making a decision. It does not require a wise manager to reach a decision when there are no other possible choices. It does require wisdom and experience to evaluate several alternatives and select the best one.
3. Managers have a *purpose* in mind when they make a decision. There would be no reason for carefully making a choice among alternatives, unless the decision brings them closer to some goal.

### **2. Types of Decisions**

#### **1. Programmed and non-programmed decisions:**

- Programmed decisions are those that are made in accordance to policy, procedure and rules.
- These decisions are routine and repetitive and programmed decision are relatively easy to make.
- Non-programmed decisions are novel and non-repetitive.
- If a problem has not arisen before or if there is no clear cut method for handling it, it must be handled by non-programmed decision.

#### **2. Major and minor decisions:**

- The decisions which have their impact for long-period or which have impact on other departments are known as major decision.
- Decisions which does not have long term effect or affecting one department are known as minor decisions

#### **3. Simple and complex decisions:**

- If very few variables are to be considered for solving a problem the decision is sample.
- If the variables are many, then it is a complex decision.

#### **4.Strategic and tactical or operational decisions:**

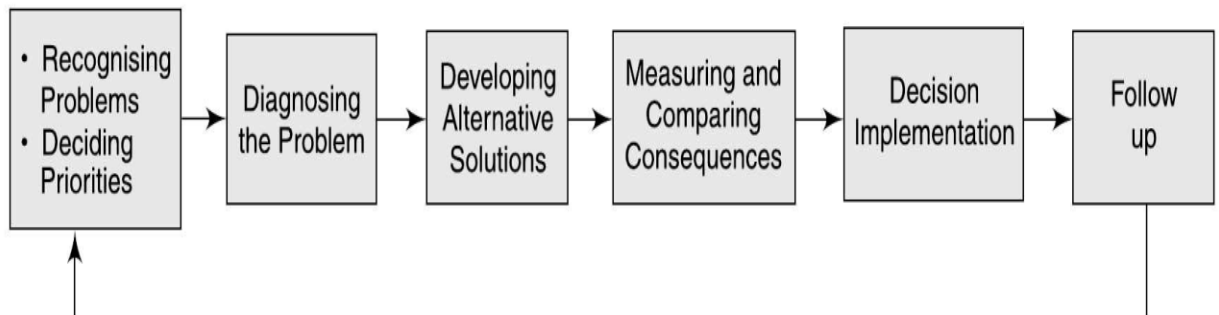
- Strategic decision is a major choice of actions concerning allocation of resources and contribution to the achievement of organizational objectives.

- Tactical or operational decision is derived out of strategic decision. It relates to day-to-day working of the organization and is made in the context of well-set policies and procedures

**5. Individual and group decisions:**

- Decision may be taken either by an individual or group.
- Decisions which are routine in nature, with few variables and definite procedures exists to deal with them are taken by individuals.
- On the other hand decisions which have their impact on other departments, which may result into some changes in the organization, are generally taken by groups.

### **3. Steps in Decision making**



**Fig. 5.1** Flow diagram of the rational decision-making process

The following steps are involved in the process decision making.

1. **Recognizing the problem:** It is necessary to search the environment for the existence of a problem.

A problem is said to exist;

- When there is deviation from past experience
- When there is deviation from plan
- When competitors outperform
- When people bring problems to the manager

**2. Deciding priorities among the problems:**

- A manager might have identified a number of problems.
- All these problems vary in their importance.
- He may find that some of the problems are such that they can be solved by their subordinates because they are closest to them.

**3. Diagnosing the problem:**

Symptoms of the problem that are observed by the manager may some times mislead him. The symptom may lead manager to suspect one part when the defect may lie hidden in another part.

**4. Developing alternative solutions or courses of activities:** A problem can be solved in several ways; however all the ways cannot be equally satisfying. If there is only one way of solving a problem, then no question of decision arises. Therefore decision maker must identify various alternatives available in order to get most satisfactory result of a decision.

**5. Evaluating alternatives:** Once various alternatives are developed, the next step is to measure and compare their consequences of alternatives using quality and acceptability. The quality of a decision must be determined considering both tangible and intangible consequences.

**6. Converting the decision into effective action:** This step involves communication of decisions to the employees. Decision must be communicated in clear and unambiguous terms. All necessary efforts should be made to secure employees participation in some stages of decision making.

**7. Follow up of action:** The manager while converting a decision into effective action should institute a system of follow-up so that he can modify or alter his decision at the earliest opportunity.