

MANAGEMENT SCIENCE

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IV B. Tech I Semester (R20)

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MANAGEMENT SCIENCE

UNIT - 1

INTRODUCTION TO MANAGEMENT

- **Management** is a universal phenomenon
 - ❖ It is the process of getting things done through others with the aim of achieving goals effectively and efficiently.
 - ❖ It is a distinct intellectual activity consisting of several functions like planning, organizing, directing, controlling and staffing.

- **Definition:**

“management is knowing exactly what you want men to do and then seeing that they do it the best and cheapest ways”.

- F.W.TAYLOR

SIGNIFICANCE OF MANAGEMENT

- **Achieving group goals**
- **Increases efficiency**
- **Creates dynamic organization**
- **Achieving personal objectives**
- **Development of society**

FUNCTIONS OF MANAGEMENT

- **Planning** is the purpose of ascertaining in advance what is supposed to be done and who has to do it. Planning is necessary to ensure proper utilization of human & non-human resources.
- **Organizing** is the administrative operation of specifying grouping tasks, duties, authorizing power and designating resources needed to carry out a particular system
- **Staffing** is obtaining the best resources for the right job.
- **Directing** involves directing, leading and encouraging the employees to complete the tasks allocated to them. Motivation and leadership are 2 chief elements of direction.
- **Controlling** is the management operation of controlling organisational achievement towards the accomplishment of organisational intentions. The job of controlling is to ascertaining criteria of performance, computing the current performance, comparing this with organized rules and taking remedial action where any divergence is observed.

SCHOOLS OF MANAGEMENT

TAYLOR'S SCIENTIFIC MANAGEMENT

- F.W. Taylor or Fredrick Winslow Taylor, also known as the 'father of scientific management'
- **The five principles of management by F.W Taylor:**
 1. Science, not the rule of thumb
 2. Harmony, not discord
 3. Mental revolution-
 4. Cooperation, not individualism
 5. Development of every person to his greatest efficiency

ELTON MAYO'S HUMAN RELATIONS APPROACH

- Elton Mayo, an Australian psychologist from Harvard University, developed the human relations theory.
- He conducted a series of experiments, which are now known as Hawthorne studies or Hawthorne experiments.
- He concluded that people have unique preferences and can't be treated as machines.

Characteristics of human relations theory

- Coordinating process
- Job satisfaction
- Human aspect

THE SYSTEMS THEORY OF MANAGEMENT

- The systems theory of management asserts that any organisation is a single, unified system of interrelated parts or subsystems.
- Each part of the overall system is dependent on the others and cannot function optimally without them.
- If factors are present that adversely affect one subsystem within an organisation, it's likely these factors may adversely affect other subsystems, too.
- This can result in impacts on the entire system to a certain extent.
- This framework presents an organisation as a natural ecosystem, where each element is interdependent.
- The systems approach is another term for this framework.

The components of an organisational system

- Environment
- Inputs
- Transformation process
- Outputs
- Feedback

THE 14 PRINCIPLES OF MANAGEMENT

Henry Fayol, also known as the father of modern management theory, gave A new perception on the concept of management.

- **Division of work**
- **Authority and responsibility**
- **Discipline**
- **Unity of command**
- **Unity of direction**
- **Subordination of individual interest**
- **Remuneration**
- **Centralization**
- **Scalar chain**
- **Order**
- **Equity**
- **Stability**
- **Initiative**
- **Esprit de corps**

ORGANISATION STRUCTURE & DESIGN

- **Organization structure**

The organization structure is the system which describes the organizational hierarchy in terms of different functions, roles, responsibilities, supervision, etc.

It demonstrates different roles of the employees, job descriptions, job functions, decision-making authorities, reporting structure, allocation of tasks in the department, individuals, project team, branch, etc.

- **Organizational design**

In simpler terms, “organizational design” refers to defining, designing, and re-structuring organizational structure. The very process of organizational design is aimed at finding any type of defective or dysfunctional elements related to an organization’s system, organization structure, process, and work culture.

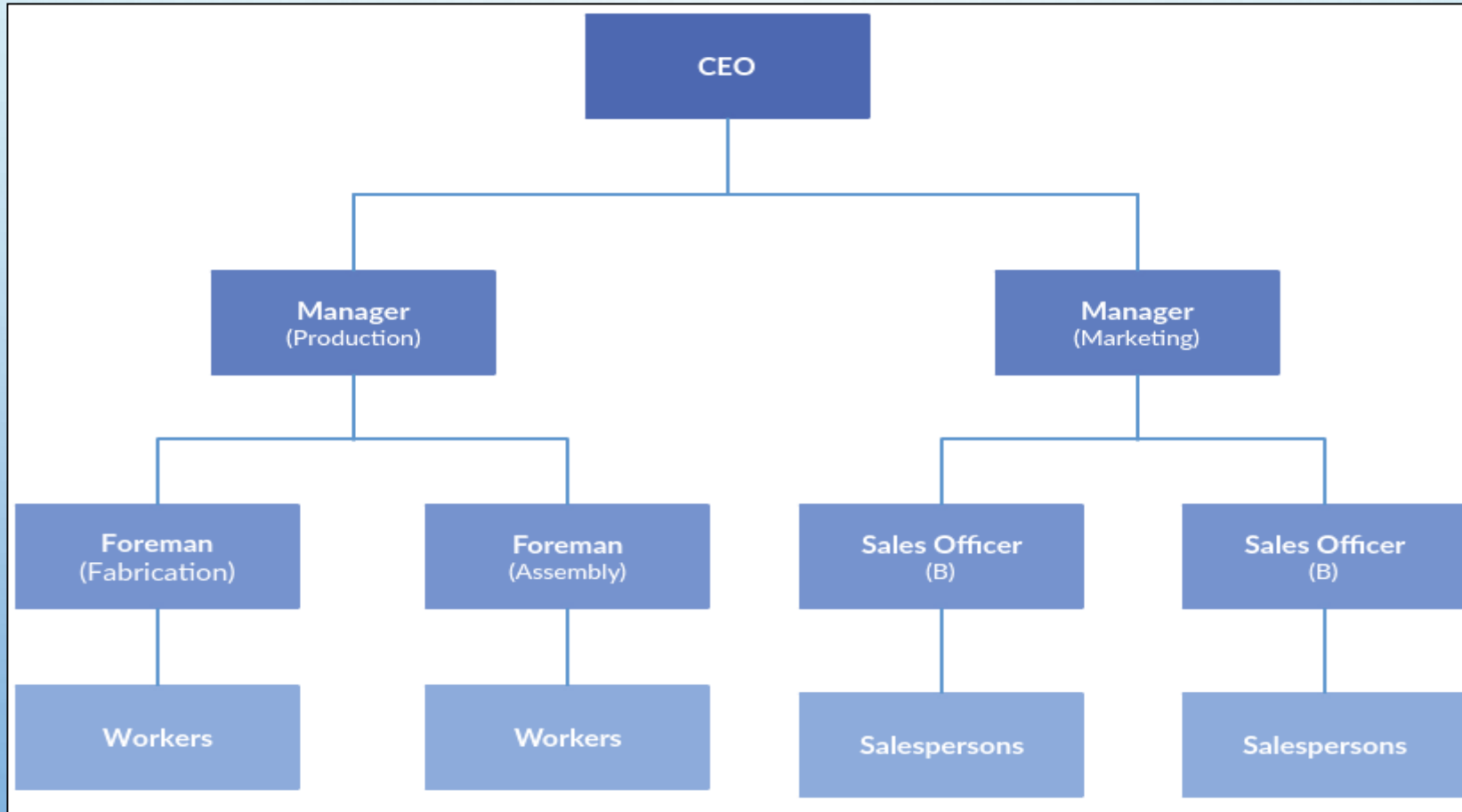
TYPES OF ORGANIZATION STRUCTURES

1. Line Organization Structure
2. Line And Staff Organization Structure
3. Matrix Organization Structure
4. Functional Organizational Structure
5. Project Organization
6. Committee Organization

LINE ORGANIZATION

- Line organization is one of the most common types of organizational structure.
- In a line organizational structure, authority flows from the top down.
- Oftentimes, there is one authority figure in charge at the top, with a series of managers beneath them.
- This type of organizational structure is commonly used in companies where there is a clear hierarchy and a need for tight control over operations.
- It is often seen in military organizations and in companies with a traditional, bureaucratic structure.
- The pictured line-type organizational chart shows how authority flows in a line organization

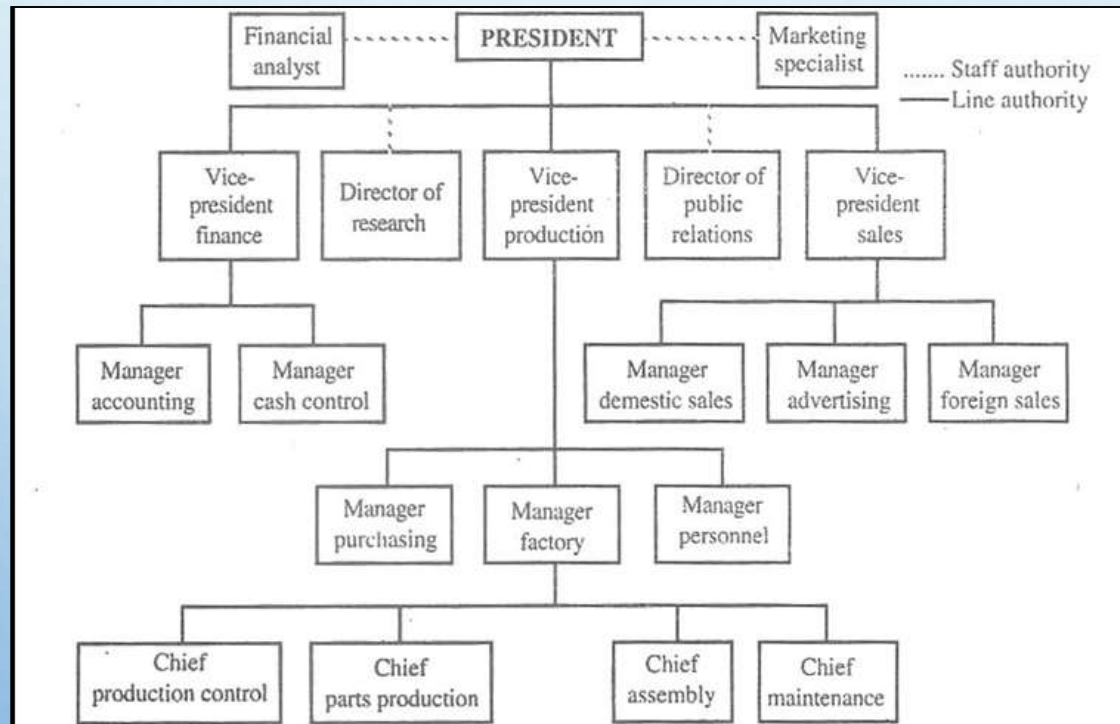
LINE ORGANIZATION



LINE-STAFF ORGANIZATION

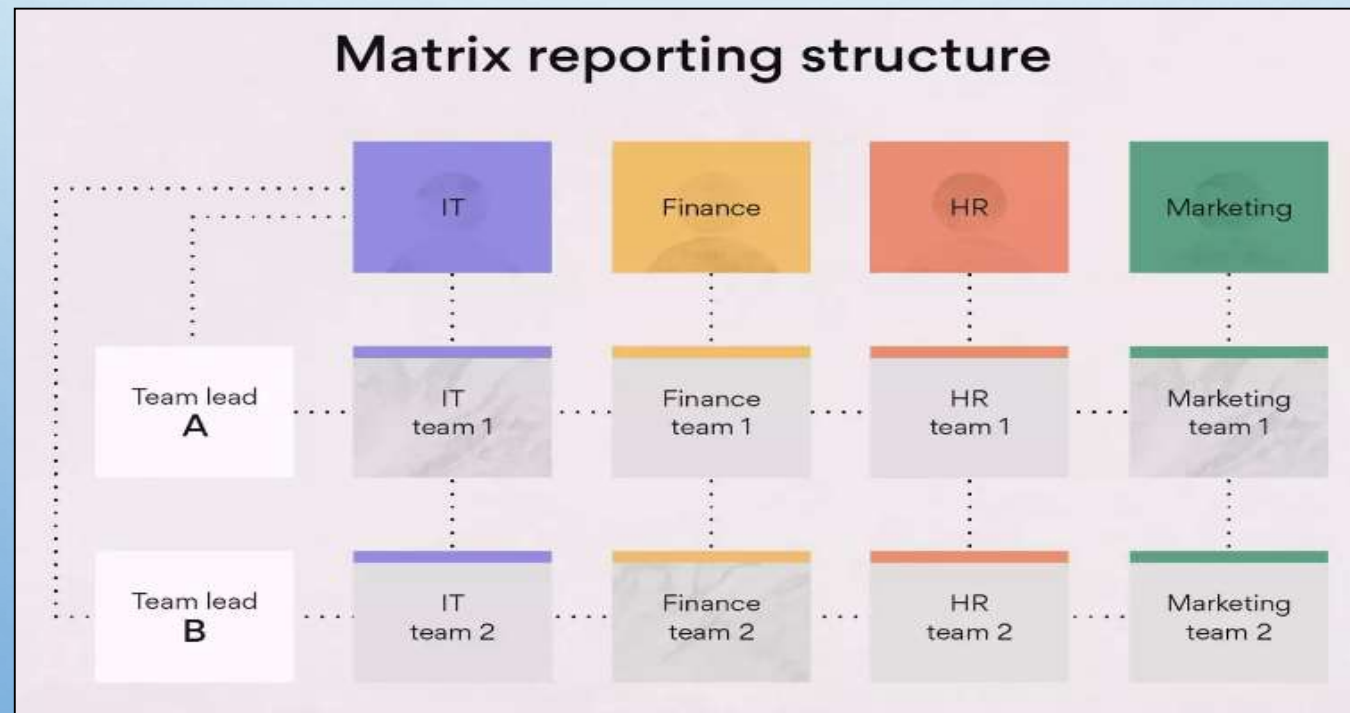
- A line-staff organization is more flexible than a line structure.
- A line-staff organization is a structure that distributes work responsibilities from upper management to lower-level employees.
- The managers establish standards for the quality of the work and deadlines for employees to finish their tasks, and they communicate their expectations to the team.
- It's the team's responsibility to meet those expectations in the assigned time.
- They also hire industry experts to complement the work of the line managers.
- Medium-sized and large corporations often use line-staff formats to stabilize the chain of command with large organizational membership.

LINE-STAFF ORGANIZATION



MATRIX STRUCTURE

- In a matrix organizational structure, the reporting relationships are set up as a grid, or matrix, rather than in the traditional hierarchy.
- It is a type of organizational management in which people with similar skills are pooled for work assignments, resulting in more than one manager to report.



FUNCTIONAL ORGANIZATIONAL STRUCTURE

- A functional organizational structure is a common type of business structure that organizes a company into different departments based on areas of expertise, grouping employees by specialty, skill or related roles.
- It's based on levels of hierarchy that include different departments, under the direction of designated leaders.
- Businesses commonly operate under functional structure because it groups people who have similar knowledge, and when used in a team environment, helps companies achieve their goals.
- The functional organizational structure typically works best for larger companies that employ multiple people with similar roles.



PROJECT ORGANIZATION

- It is a team's approach to ensuring expectations and goals are clear and structured.
- When your team incorporates project organization, each member has a specific role and specific responsibilities.
- Project organization refers to the style of coordination, communication and management a team uses throughout a project's life cycle.
- Project organization encourages participation by each team member and embraces diverse talents and skills.
- Team involvement is laid out in an organizational structure chart that graphically shows where each person is placed in the project structure.
- Project organizational charts are useful tools for clarifying who does what, securing buy-in and setting expectations for the group.

PROJECT ORGANIZATION



COMMITTEE ORGANIZATION

- This provides integrated ideas of various related people of the company.
- Participative management in true form is visible under committee organization.
- It is an incentive to volunteer to from integrated ideas and to willingly follow them. New ideas and solutions of various problems are feasible with the committee organization.
- It is a very good example of democratic management wherein every member has an equal opportunity to raise his voice and come to a common solution.
- Flexibility and technical excellence are possible under this organization.
- The top management is relieved from certain problems.
- The company can encounter the changing and uncertain environment in a better way.
- It facilitates high quality and innovative solutions to technical problems.
- Coordination and control become easy because open discussion is invited in the committee.
- Ideas and specialized functions are feasible under committee organization.

SOCIAL RESPONSIBILITIES OF MANAGEMENT

Definition:

“Social responsibility of managers means the responsibility of managers in carrying out their socially approved missions.”

- Wehrich & Koontz

Social responsibilities that are usually performed by management are:

- Management preserves the interests of the owners of the organization, ensures proper utilization of their assets and equitable distribution of earned profits.
- The improvement and deterioration of the business is directly related to the satisfaction of workers and employees. Workers are members of society
- Another social responsibility of management is to establish good relations between workers and management by avoiding domineering attitudes within the organization.

SOCIAL RESPONSIBILITIES OF MANAGEMENT

- To increase productivity for the economic development of the country and contribute to the increase of national income by paying income tax to the revenue sector.
- Another function of management is to try to meet the changing needs of the people and the consumer class.
- Management also has responsibility towards the surrounding society. People around the organization expect many social welfare services and activities from the organization (roads, schools, colleges, hospitals etc.).
- The management performs various welfare works in the society, such as giving grants to educational institutions, arranging scholarships for the studies of meritorious students, acting as sponsors of various local and foreign sports, etc.
- Management of modern technology by importing strives to improve quality of life.
- Management should be carried out with efficiency and thus desire to be institutionalized management with management
- Provision of new employment for the people of the country is a significant social responsibility of modern management.

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MANAGEMENT SCIENCE

UNIT – 2

OPERATIONS MANAGEMENT

- Operations management is the branch of management that oversees the entire production timeline of a service/product.
- From the input to the finished stage, it includes planning, organizing, and supervising operations.
- Operations management is the process of managing the operations of an organization.
- It aims to ensure the efficient use of resources to produce high-quality products.
- Operations management involves analyzing and managing processes and improving customer service.
- It is a vital part of any organization and is key to success.

SIGNIFICANCE OF OPERATIONS MANAGEMENT.

- Organizations need operations management to run their daily operations smoothly.
- Operations management oversees all processes and deals - system design, operation, maintenance, and improvement. It also ensures that products and services are produced smoothly and on time.
- It also helps prepare for unexpected circumstances.
- Employee productivity is increased when operation management inspires them to do their jobs.
- Operations management supports an organization's reputation. Thus, leading to a favourable effect on its capacity to achieve growth and stability goals.
- Operations management guarantees that products satisfy quality standards. Fulfilling the requirements of customers is an additional duty here.
- Understanding and refining the processes is part of operations management. Thus, operations management promotes the sale of more products/services.

PLANT LAYOUT

- **Definition:**

“The plan of or the act of planning, an optimum arrangement of facilities, including personnel, operating equipment, storage space, materials handling equipment and all other supporting services along with the design of the best structure to accommodate these facilities”.

- **Objectives of plant layout:**

- Bottlenecks are eliminated by line balancing so that material handling and transportation is minimized.
- Work stations are designed suitably, so that movement made by the workers is minimized.
- The waiting time of the semi-finished products is minimized.
- Increase the flexibility for changes in product design and future modification.

TYPES OF PLANT LAYOUT

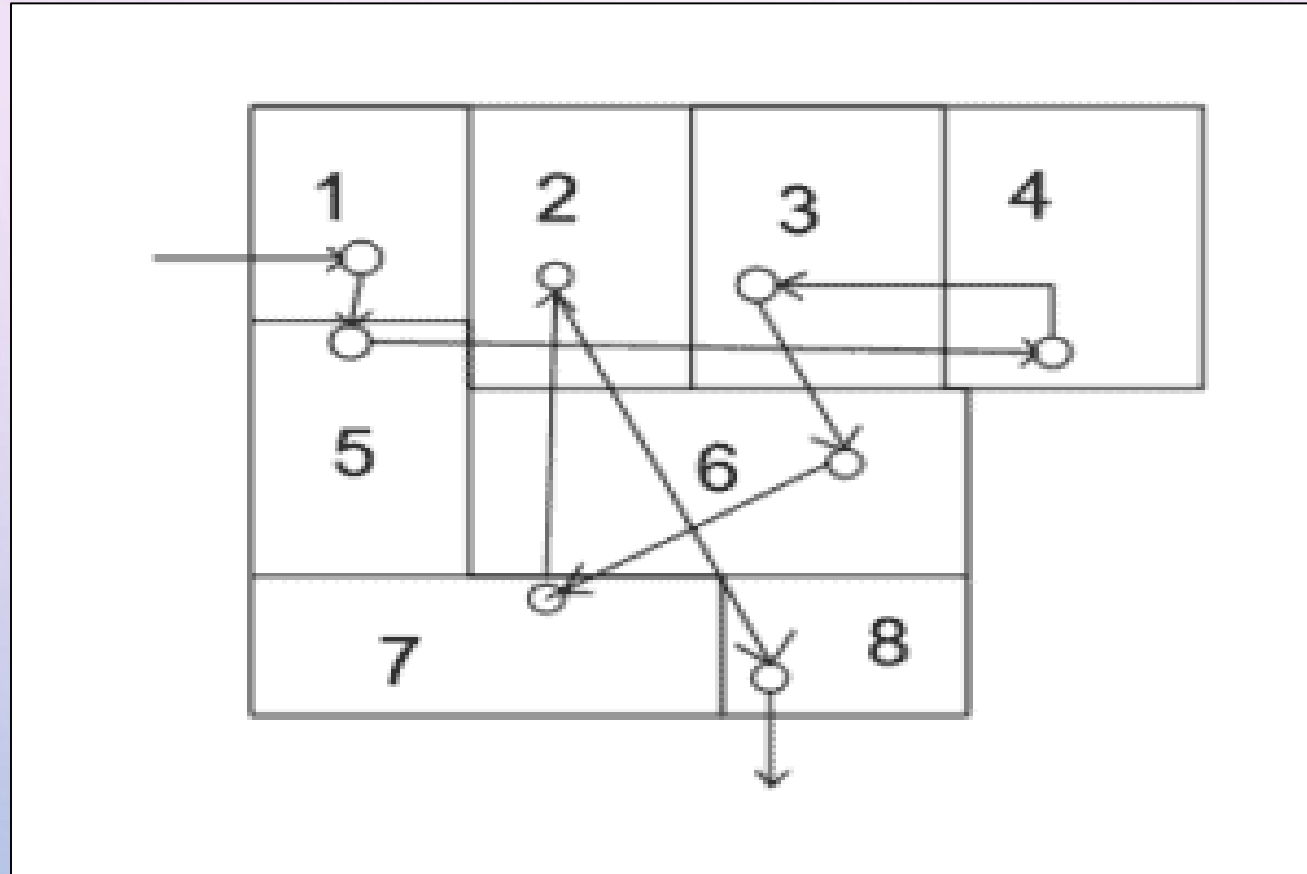
There are four types of plant layout –

1. Process layout.
2. Production layout.
3. Combination layout.
4. Fixed position layout.

1. PROCESS LAYOUT

- In process, layout keep similar machines and similar operations in one place.
- In other words, machines are arranged according to their function.
- That means all lathe should be in one place, all milling at another and so on.
- Process layout generally employed for industries engaged in job order production and non-repetitive kind of maintenance or manufacturing activities.

1. PROCESS LAYOUT

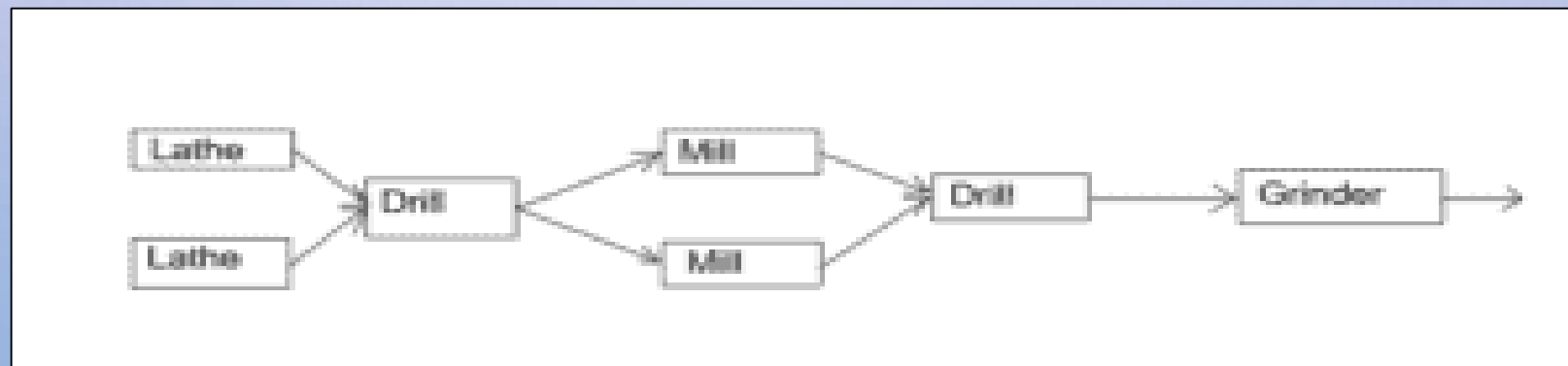


Process Layout showing product movements

1. Storeroom, 2. Inspection department, 3. Broaching section, 4. Milling section, 5. Lathe section, 6. Shaper section, 7. Drill section, 8. Stock room.

2. PRODUCT LAYOUT

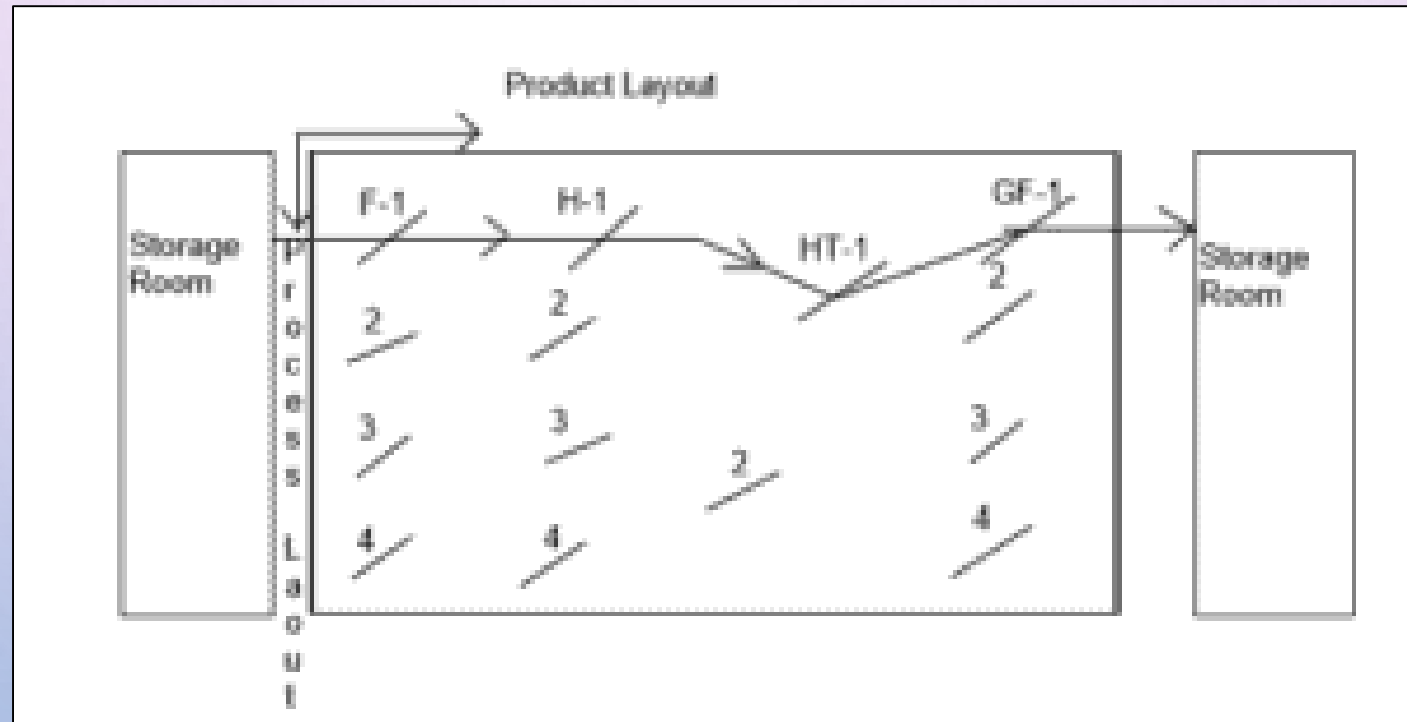
- Product layout is also known as line layout. Various operations on raw material are performed in a sequence and machines are placed accordingly the production flow line.
- This type of layout is preferable for continuous production, that is, involving a continuous flow of in-process material towards the finished product stage.



3. COMBINATION LAYOUT

- A combination layout combines the advantages of both process layout and product layout. These days pure process and product layouts are rare.
- A combination layout is possible where the item is made in different types and size.
- In such case machinery arrange in a process layout but process grouping is then arranged in the sequence of various types and sizes of the products.

3. COMBINATION LAYOUT



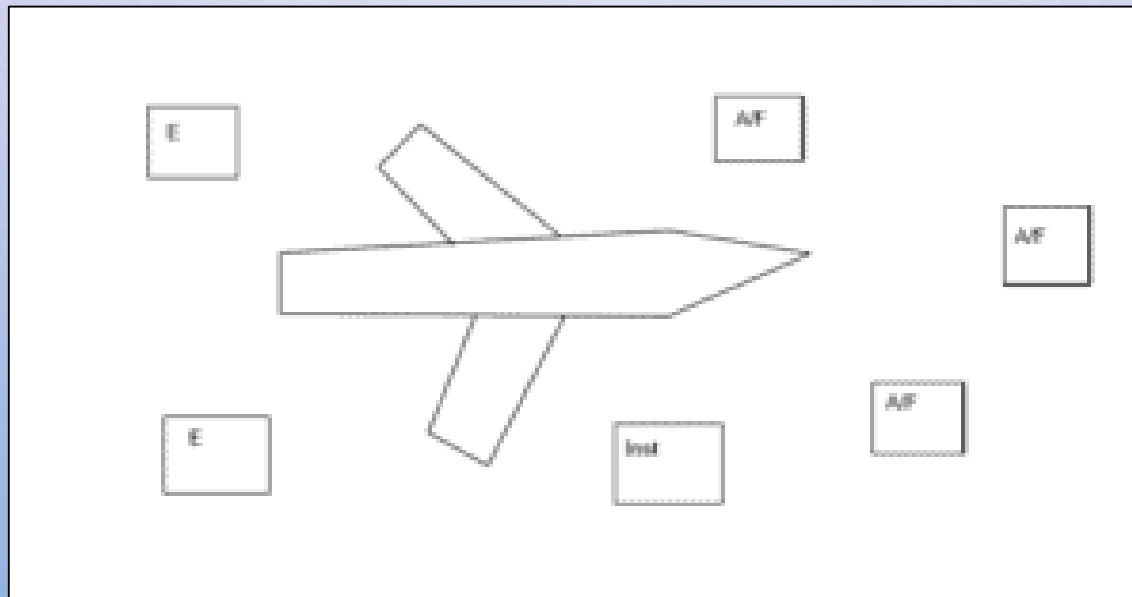
A combination layout for different types and sizes of gears

F = Blank forging hammers, H = Hobbing machines for cutting gear

HT = Heat treatment furnaces, GF = Gear finishing machines.

4. FIXED POSITION LAYOUT

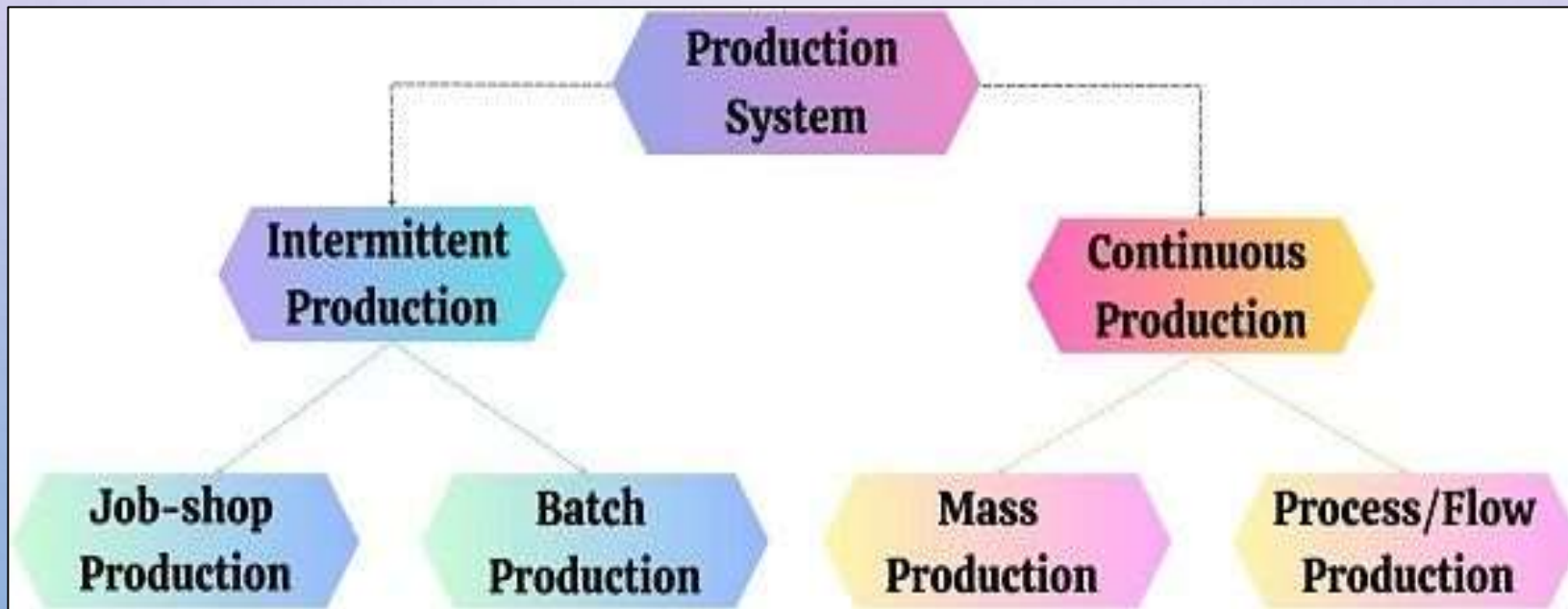
- In other types of layouts, the product moves past the stationary production equipment, but in fixed position layout, product kept stationary, and equipment moves around it.
- Fixed-position layout is applicable in shipbuilding, aircraft manufacturer, etc.



PRODUCTION SYSTEM IN OPERATION MANAGEMENT

The production systems are classified into:

- Intermittent production system
- Continuous production system



INTERMITTENT PRODUCTION SYSTEM

- In the intermittent production system, goods and services are produced to fulfil the orders of the customer rather than keeping them in stock for the future transaction.
- Production facilities used in this system are flexible enough to produce a wide variety of products according to varied order and need of the customer.

The intermittent production system can be classified as

- Job or unit production system
- Batch production system

JOB OR UNIT PRODUCTION SYSTEM

In job production system a single unit job is completed by one or group of people at one time in accordance to or order of customer.

Examples are making furniture, making the bridge. Here the product or service differs in accordance to customer order.

Characteristics of job shop production

- Multiple varieties of products and low volume
- Operators are highly skilled and can perform each job in an effective manner. They take each job as a challenge due to its uniqueness.
- There is a huge stock of materials, tools, equipment, and parts.
- In-depth planning is important to determine the need of each product, and capacities for each work center, and to order priorities.

BATCH PRODUCTION SYSTEM

Here the production is done on batch i.e, a large number of similar products is made at one time in accordance to order of customer or future demand of the customer. The second batch will be differing from the first batch and second batch production start after completion of the first batch only.

Examples are manufacturing of pharmacy products, electronic goods, printing of books, etc.

Characteristics of batch production

- The production runs are shorter
- Flexible plant and machinery
- Plant and machinery set up are used to the product in the lot. After that, the setup undergoes a change so as to process the next batch.
- Lower lead time and cost.

CONTINUOUS PRODUCTION SYSTEM

In this system production is carried out in accordance with the sales forecast and stock position. In this process, raw material, process and products are standardized.

Ex: Production of FMCG likes soaps, noodles, beers, etc.

The continuous production system is classified into :

- Mass production
- Flow production

MASS PRODUCTION

- When manufacturing of discrete parts and assemblies takes place by way of a continuous process, it is mass production.
- As the name signifies, the production involves a large volume so as to meet demand.
- In this, the arrangement of the machine is in a line. There is the standardization of products and processes.
- Further, the outputs go through the same path. Also, the materials are purchased in bulk. It requires well-researched production planning.
- **Examples:** production of canned products, auto parts and industrial products

FLOW PRODUCTION

Flow production, also known as continuous production, is an important method for organising production of a given product. Flow production is defined as a continuous and uninterrupted production method.

Examples: cement factory, sugar factory, chemical processing, and oil refineries.

Characteristics of flow production

- It's a highly automated process.
- Conversion process whereby successive units of output undergo the same operation sequence.
- Use of specialized equipment positioned along the production line.

WORK STUDY

- Work study aims at improving the existing and proposed ways of doing work and establishing standard times for work performance. Work study helps to increase productivity.

Work study is encompassed by two techniques –

1. Method study and

2. Work measurement (time study)

- Method study is the systematic recording and critical examination of existing and proposed ways of doing work, as a means of developing and applying easier methods and reducing costs.
- Work measurement (or time study) is the application of techniques designed to establish the time for a qualified worker to carry out a specified job at a defined level of performance.

STATISTICAL QUALITY CONTROL

Statistical quality control is the application of statistical techniques to determine how far the product conforms to the standards of quality & precision and to what extent its quality deviates from the standard quality.

Techniques of SQC

1. Quality control during production;
 - By process control charts.
2. Quality assurance while purchasing;
 - By acceptance sampling for the incoming materials.

DEMING'S QUALITY MANAGEMENT

Deming's 14 points on quality management, or the Deming model of quality management, a core concept on implementing total quality management (TQM), is a set of management practices to help companies increase their quality and productivity.

1. Create a constant purpose toward improvement.
2. Adopt the new philosophy.
3. Stop depending on inspections.
4. Use a single supplier for any one item.
5. Improve constantly and forever.
6. Use training on the job.
7. Implement leadership.

CONTINUED...

8. Eliminate fear.
9. Break down barriers between departments.
10. Get rid of unclear slogans.
11. Eliminate management by objectives
12. Remove barriers to pride of workmanship
13. Implement education and self-improvement.
14. Make "transformation" everyone's job.

MATERIALS MANAGEMENT

- Materials management refers to a more efficient administration of materials or firms' input.
- Materials management is one of the main functions of scm i.E. Supply chain management.
- It covers – planning, sourcing, procurement, scheduling, storing, providing, and controlling appropriate materials.
- It plays a crucial role in industries like construction, manufacturing and production.
- This is because in such industries any sort of shortage of material, or supply of low-quality materials may result in loss. And this loss will be of both profits as well as customer satisfaction.

INVENTORY

- “Inventory is an idle stock of physical goods that contain economic value, and are held in various forms by an organization in its custody awaiting packing, processing, transformation, use or sale in a future point of time.”
- **Types of inventory**
- Raw materials
 1. Direct raw materials
 2. Indirect raw materials
- Work-In-Progress (WIP)
- Finished goods
- Maintenance, Repair, Operations (MRO)

INVENTORIES CONTROL TECHNIQUES

1. ABC ANALYSIS OF INVENTORIES

- According to this approach to inventory control high value items are more closely controlled than low value items.
- Each item of inventory is given a, b or c denomination depending upon the amount spent for that particular item.
- "A" or the highest value items should be under the tight control and under responsibility of the most experienced personnel,
- While "C" or the lowest value may be under simple physical control.

Example:

- "A" category – 5% to 10% of the items represent 70% to 75% of the money value.
- "B" category – 15% to 20% of the items represent 15% to 20% of the money.
- "C" category – the remaining number of the items represent 5% to 10% of the money value.

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2. VED ANALYSIS:

- The technique involves categorizing items into three groups based on their criticality and the urgency of their availability. The categories are:
 - Vital category (V):
 - Essential category (E)
 - Desirable category (D)

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3. LIFO AND FIFO

- **LIFO method**, the warehouse puts out the most recent batch of items to the customers first.
- **FIFO technique**, the warehouse prioritizes older stocks for processing and shipping.

4. Batch tracking

Batch tracking is also a great way of organizing stock items in a warehouse facility. In this method, goods of the same production date and materials are grouped together

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5. Safety stock

- Safety stock involves having an additional set of goods on hand as a preventive measure for the market's volatility. The amount should be over the average demand or use of the product.

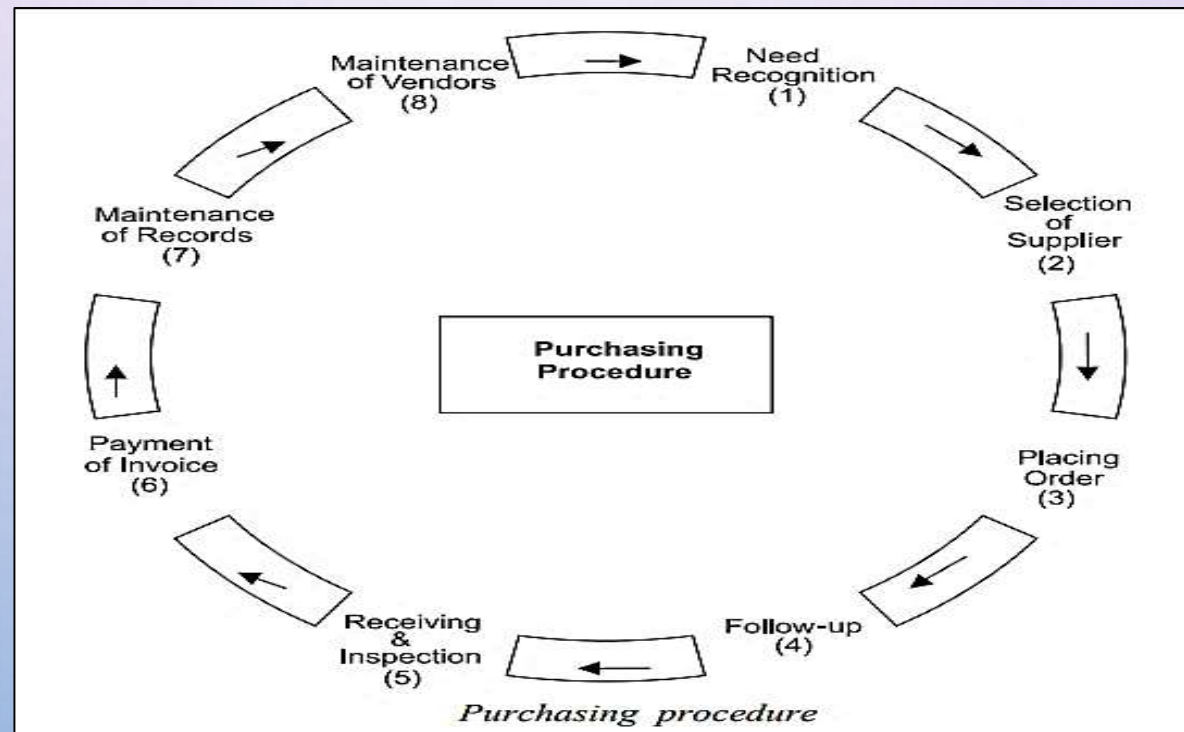
6. Economic order quantity or EOQ:

- It is one of the oldest and the most popular inventory control technique. The term EOQ can be defined as an order quantity at which the total cost comprising of the ordering and holding cost is at the minimum.

PURCHASE FUNCTIONS AND PROCEDURE

- Purchasing is an important function of materials management. In any industry purchase includes buying of raw materials equipment, tools, spare parts etc. Required for industry.

Purchasing procedure



STORES MANAGEMENT

- The store is an important component of material management since it is a place that keeps the materials in a way by which the materials are well accounted for, are maintained safe, and are available at the time of requirement.



MARKETING MANAGEMENT

Marketing is a very broad term and cannot be explained in a few words. Marketing is an essential business function that helps in making the customers aware of the products or services that are offered by a business.

- **Definition:**

“Marketing management as the art and science of choosing target markets and getting, keeping and growing customers through creating, delivering and communicating superior customer values of management.”

- Philip kotler

Functions of marketing:

1. Identify needs of the consumer
2. Planning
3. Product development
4. Standardisation and grading
5. Packing and labelling
6. Branding
7. Customer service
8. Pricing
9. Promotion
10. Distribution
11. Transportation
12. Warehousing

MARKETING MIX

- Marketing mix is a set of marketing tool or tactics, used to promote a product or services in the market and sell it. It is about positioning a product and deciding it to sell in the right place, at the right price and right time.

THE 4 P'S OF MARKETING:

- Product in marketing mix
- Price in marketing mix
- Place in marketing mix
- Promotion in marketing mix

CHANNELS OF DISTRIBUTION

- A distribution channel - is a chain of organisations or its middlemen or intermediaries through a distribution channel chain, a service or a product is moved or proceeds until this arrives at the end consumer or the final purchaser of that specific goods or service.
- **Types of channels of distribution**
 1. Manufacturer – consumer
 2. Manufacturer – retailer - consumer
 3. Manufacturer – wholesaler - retailer - consumer
 4. Manufacturer - agent middlemen - wholesaler - retailer – consumer

ADVERTISING

Definition:

"Advertising is any paid form of non-personal presentation & promotion of ideas, goods, or services by an identified sponsor."

- Philip Kotler

- Advertising is one thing which has become a necessity for everybody in today's day to day life, be it the producer, the traders, or the customer. Advertising is an important part.

Characteristics of advertising:

- Paid form
- Tool for promotion
- One way communication
- Personal or non-personal

Types of advertisements are:

- Print advertising: newspaper, magazines, & brochure advertisements, etc.
- Broadcast advertising: television and radio advertisements.
- Outdoor advertising: hoardings, banners, flags, wraps, etc.
- Digital advertising: advertisements displayed over the internet and digital devices.
- Product/brand integration: product placements in entertainment media like tv shows, youtube videos

SALES PROMOTION

Sales promotion is a part of the promotion mix that a business uses for stimulating the demand for products and services and also to increase brand awareness of the product or the service.

Definition:

“Sales promotion encompasses all the tools in the marketing mix whose major role is persuasive communication”

- Philip kotler

Sales promotion is used in the following cases:

- 1. For introducing new products to the existing market
- 2. To increase the sales of an existing product
- 3. To introduce a product to a new market

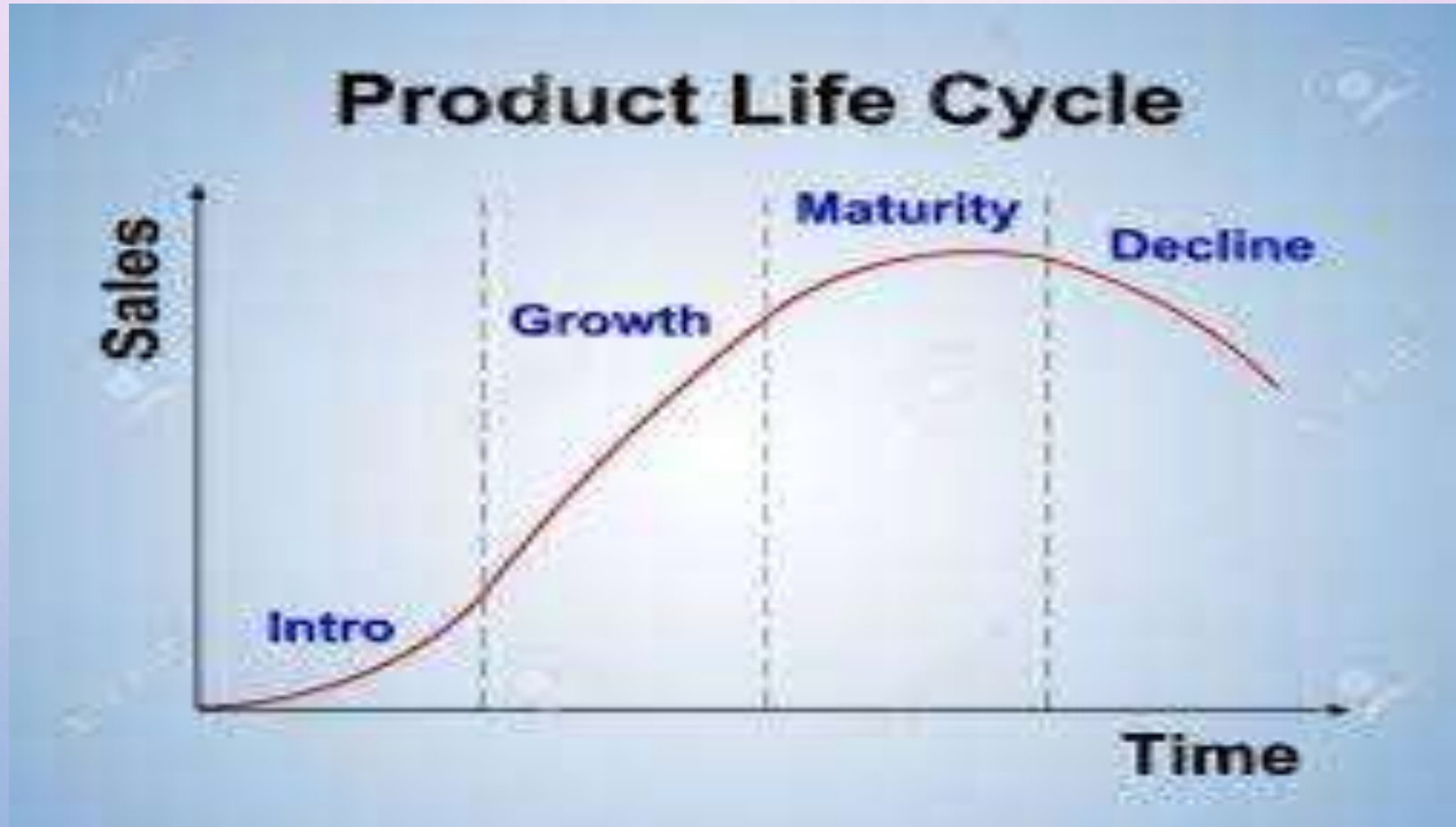
PRODUCT LIFE CYCLE

- The product life cycle is the process a product goes through from when it is first introduced into the market until it declines or is removed from the market.
- Companies use plc analysis to create strategies to sustain their product's longevity or change it to meet market demand or adapt to developing technologies.

The Product Life Cycle has four stages:

- Introduction
- Growth
- Maturity
- Decline

PRODUCT LIFE CYCLE STAGES



PRODUCT LIFE CYCLE STRATEGIES

1. Product Introduction Strategies

Marketing strategies used in the introduction stages include:

- Rapid skimming - launching the product at a high price and high promotional level
- Slow skimming - launching the product at a high price and low promotional level
- Rapid penetration - launching the product at a low price with significant promotion
- Slow penetration - launching the product at a low price and minimal promotion

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2. Product Growth Strategies

Marketing strategies used in the growth stage mainly aim to increase profits.

Some of the common strategies are:

- Improving product quality
- Adding new product features or support services to grow your market share
- Entering new markets segments
- Keeping pricing as high as is reasonable to keep demand and profits high
- Increasing distribution channels to cope with growing demand
- Shifting marketing messages from product awareness to product preference
- Skimming product prices if your profits are too low

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3. Product Maturity Strategies

- When your sales peak, your product will enter the maturity stage.
- This often means that your market will be saturated and you may find that you need to change your marketing tactics to prolong the life cycle of your product.

Strategies during this stage fall under this categories:

- Market modification - this includes entering new market segments, redefining target markets, winning over competitor's customers, converting non-users
- Product modification - for example, adjusting or improving your product's features, quality, pricing and differentiating it from other products in the marking

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4. Product Decline Strategies

- During the end stages of your product, you will see declining sales and profits. This can be caused by changes in consumer preferences, technological advances and alternatives on the market.

At this stage, you will have to decide what strategies to take are as follows:

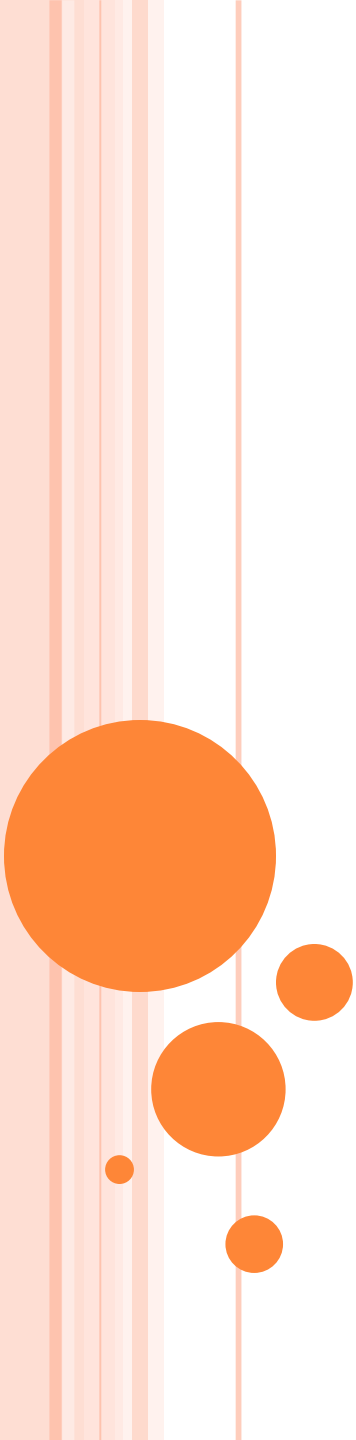
- Reduce your promotional expenditure on the products
- Reduce the number of distribution outlets that sell them
- Implement price cuts to get the customers to buy the product
- Find another use for the product
- Maintain the product and wait for competitors to withdraw from the market first
- Harvest the product or service before discontinuing it



UNIT – III – HUMAN RESOURCE MANAGEMENT

HRM -DEFINITION

According to Flippo: “Human Resource /Personnel Management may be defined as the planning, organizing, directing, and controlling of the procurement, development, compensation, integration and maintenance and separation of human resources to the end that individual, organizational and societal objectives are accomplished”



HRM - NATURE

- HRM is based on certain principles and policies
- HRM is a pervasive function
- HRM is people oriented
- HRM is continuous activity
- HRM is a part of management function

HRM - **Managerial and Operative Functions**

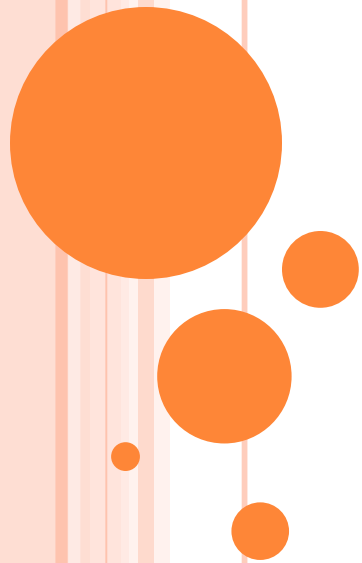
Managerial Functions

- ❖ **Planning**
- ❖ **Organising**
- ❖ **Staffing**
- ❖ **Directing**
- ❖ **Motivating**
- ❖ **Controlling**

HRM - **Managerial and Operative Functions**

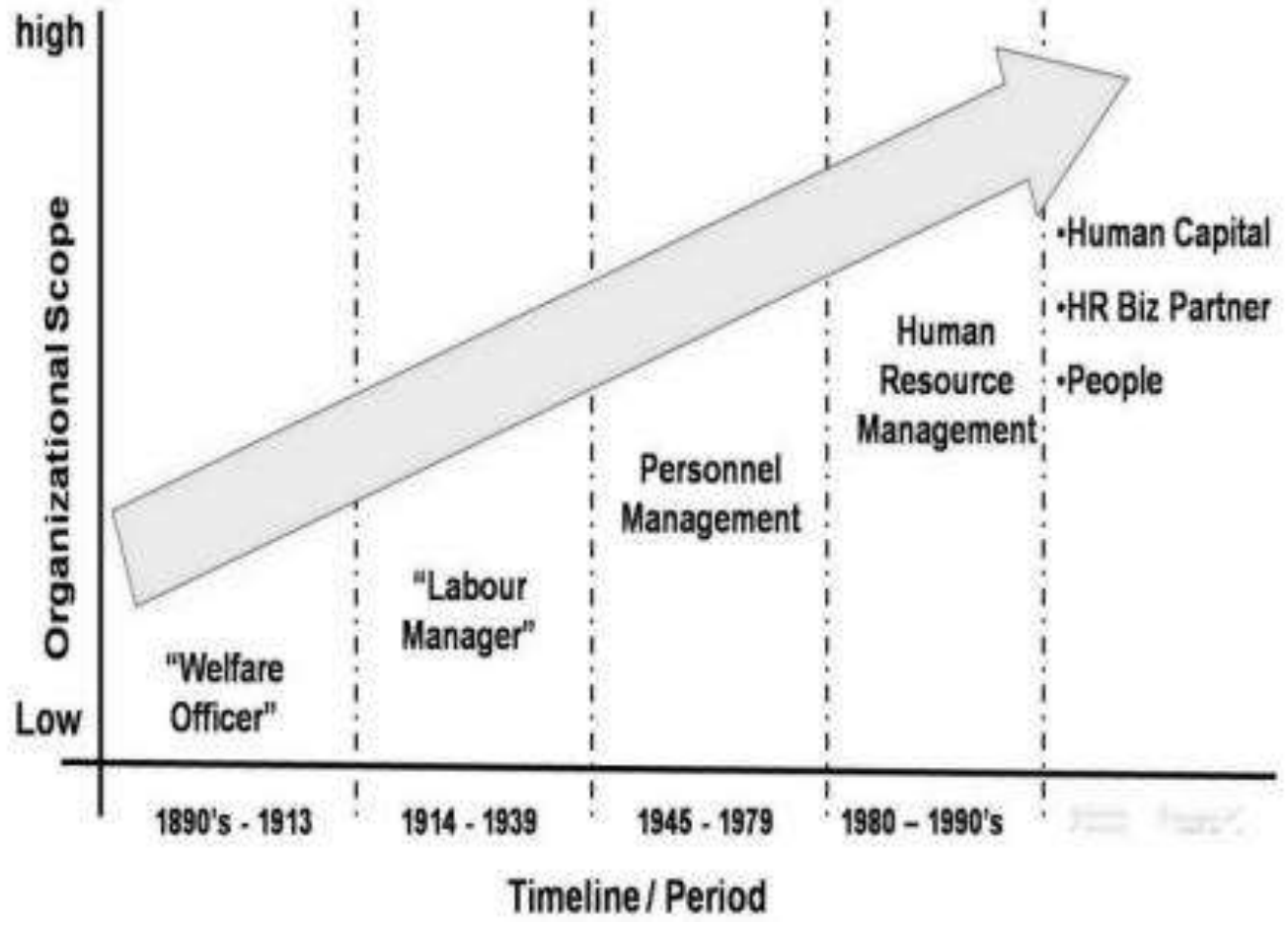
Operative Functions

- Procurement**
- Development**
- Compensation**
- Maintenance**



HRM - EVOLUTION

Evolution of HRM ...



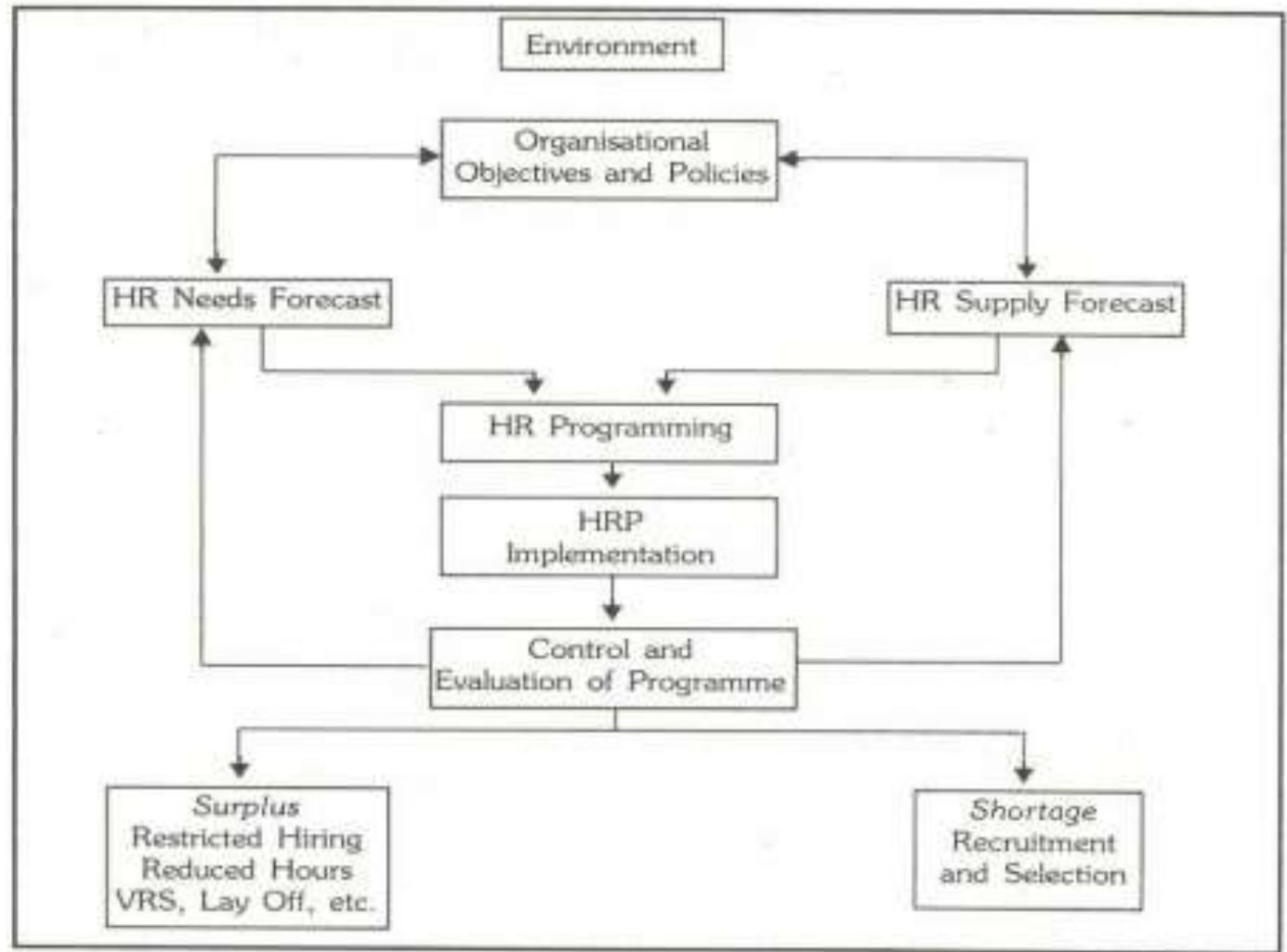
HRM - MAN POWER PLANNING

According to Geisler: *“Manpower planning or HR Planning is the process which includes forecasting, developing and controlling by which a organization ensures that it has the right number of people the right kind of people, at the right places, at the right time, doing work for which they are economically most useful.”*

HRM - MAN POWER PLANNING

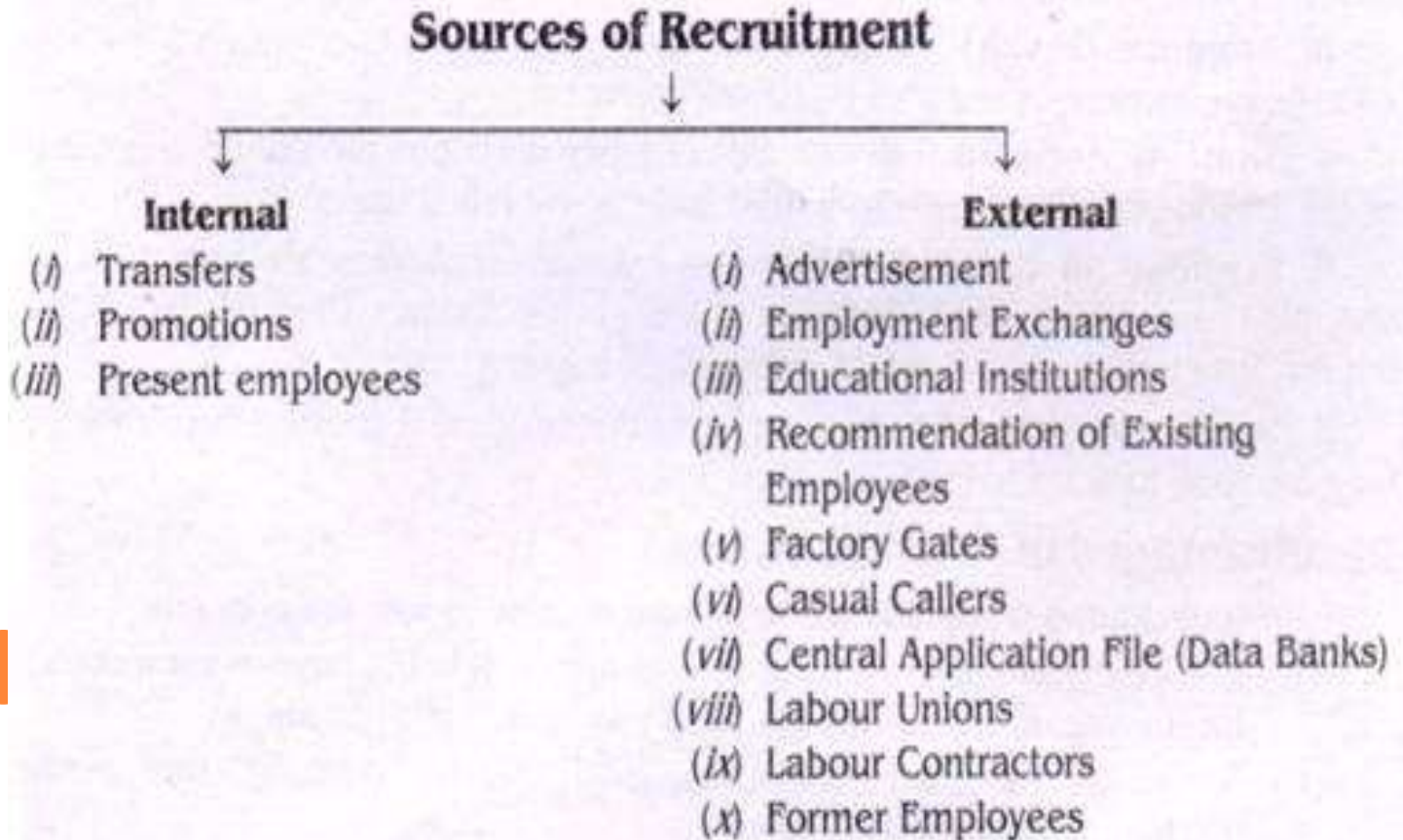
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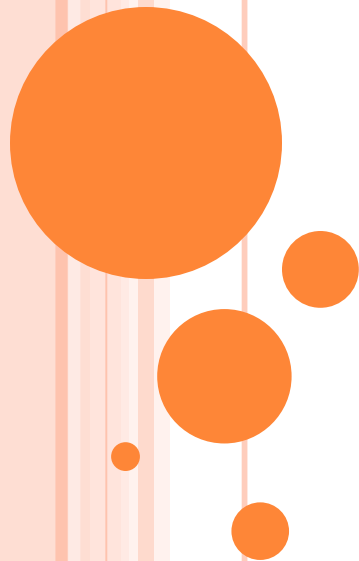


The HRP Process

HRM - EMPLOYEE RECRUITMENT



HRM - SELECTION PROCESS



HRM - EMPLOYEE TRAINING METHODS

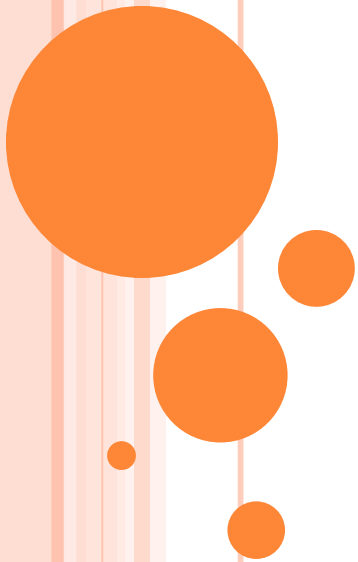


HRM - PERFORMANCE APPRAISAL

<i>Traditional Methods</i>	<i>Modern Methods</i>
1. Ranking method	1. Management by Objectives (MBO)
2. Paired comparison	2. Behaviourally anchored rating scales
3. Grading	3. Assessment centres
4. Forced distribution method	4. 360-degree appraisal
5. Forced choice method	5. Cost accounting method
6. Checklist method	
7. Critical incidents method	
8. Graphic scale method	
9. Essay method	
10. Field review method	
11. Confidential report	

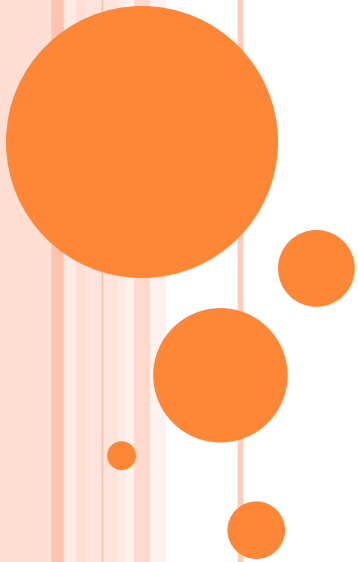
HRM - PLACEMENT - Principles

- Job Requirements**
- Suitable Qualifications**
- Adequate Information to the Job Incumbent**
- Commitment and Loyalty**
- Flexibility**

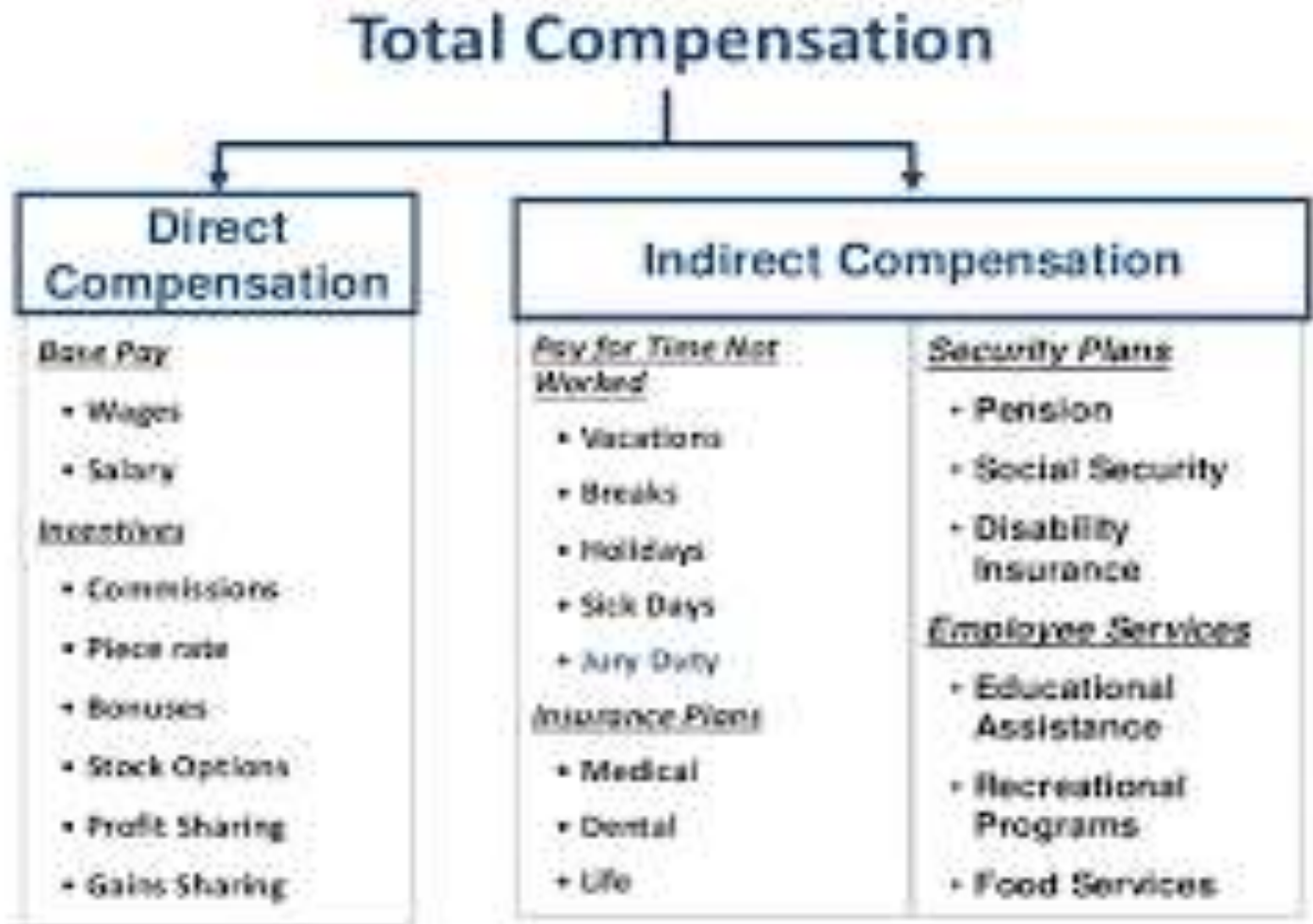


HRM - INDUCTION

- ❑ Welcoming the New Employees
- ❑ Induction with Immediate Superior
- ❑ To Impart Detail Instruction



HRM - COMPENSATION



UNIT -4

MANAGEMENT SCIENCE

STRATEGIC MANAGEMENT

Strategy is concerned with deciding which alternative is to be adopted to accomplish the overall objectives of the organization. Strategy is a Comprehensive long term plan.

It tries to answer three main questions:

What is the present position of the firm?

What should be the future position of the firm?

What should be done to attain the future position?


Definition:

According to Alfred D Chandler: “Strategy is the determination of the basic long-term goals & objectives of an enterprise & the adoption of the course of action and the allocation of the resources necessary for carrying out these goals.

According to Jauch & Glueck: “Strategic Management is a stream of decisions & actions which leads to the development of an effective strategy or Strategies to help achieve corporate objectives The Strategic Management process is the way in which strategists determine objectives & make strategic decisions”

Nature & Characteristics of Strategies:

1. Objective Oriented - Strategies are developed in order to achieve the objectives of the organization.
2. Future Oriented - Strategy is a future oriented plan. It is designed to attain future position of the organization.ectives of the organization.
3. Unified, Comprehensive and Integrated - A Strategy is not Just plan. It is a unified, Comprehensive & integrated plan.

- 
4. Alternatives Strategies - Organizations need to frame alternative strategies. It is not sufficient to frame one or two strategies.
 5. Relates to the Environment - The internal and external environment affects the strategy formulation & implementation.
 6. Allocation of Resources - For effective implementation of Strategy, there is a need for proper allocation of the resources.
 7. Universal Applicability - Strategy is universally applicable. It is applicable to business organization as well as to non-business organization.


SETTING of VISION – MISSION - GOALS

VISION:

A vision is a statement for where the organization is heading over the next five to ten years. It is the statement that indicates mission to be accomplished by the management in distant future.

Characteristics of an Effective Vision Statement:

1. **Graphic:** The vision should draw a picture that can reveal where the company is heading and can also indicate clearly the market position.
2. **Directional:** It is able to provide clear direction to the managers and employees as well as describe a forward-looking picture of the company.
3. **Focused:** It can specifically guide managers in decision making and allocating resources of the company.
4. **Focused:** It can specifically guide managers in decision making and allocating resources of the company.


- 
5. Feasible: It should portray an expectation for the future that is achievable – not just spelling out an expectation for the sake of telling about an expectation.
 6. Desirable: It should be able to indicate; ‘why the chosen path makes good business sense’.
 7. Easy to communicate: The vision must be worded in such a way that it can be communicated easily to the stakeholders, especially the shareholders, employees, and customers.

MISSION :

All management experts unanimously agree that clarifying the mission and defining the business is the starting point of business planning. Many organizations define the basic reason for their existence in terms of a mission statement. An organization's mission includes both a statement of organizational philosophy and purpose.

Characteristics of an Effective Mission Statement:

- 1) **Clarity:** It should be clear and easy to understand the philosophy and purpose of the organization.
- 2) **Feasibility:** It should not state impossible tasks. A mission statement should always aim higher but not impossible goals.
- 3) **Current:** It may become outdated after sometime. A mission statement may hold good for a certain number of years say 10 year.

- 
- 4) Enduring: It should be a motivating force guiding and inspiring the individuals in the organization for higher and better performance.
 - 5) Distinctive: It should be unique and distinctive. It should not appear similar as compared to the other competitors or companies.
 - 6) Precise: It should contain few words and not a very long statement. It should sound good and look good.

GOALS:

A business owner's simplest goal is to be successful and make money.

However, this isn't enough to make your business successful.

Most businesses use the SMART model for goal setting: Specific, Measurable, Achievable, Relevant and Timed. These are specific characteristics used in successful goal setting.

Characteristics of GOAL S

1. A goal is measurable: to the extent that whether the goal is achieved can be quantified.
2. A goal is aggressive: if achieving it presents a significant challenge to the organization.
3. Specificity: Strategic goals are more specific than, let's say, your role statement, but then can't be too specific either, since you don't want too many of them in your strategic plan.
4. Reflective: Your strategic goals need to reflect the analytical work done in the rest of the strategic planning process.

Corporate Planning Process

Corporate planning is a process that is used by businesses to map out a course of action to grow, increase profits, gain exposure, or strengthen brand identity. Corporate planning is a tool that successful businesses use to leverage their resources more wisely than their competitors.

Need for corporate planning:

- Clarity & Direction
- Ensure efficiency use of resources
- Provide a way of measuring progress
- support effective decision-making
- Coordinate activities
- Allocate responsibilities

Process of Corporate Planning

- i) Environmental Analysis and Diagnosis .
- ii) Determination of Objectives
- iii) Strategy Formulation
- iv) Development of Tactical Plans
- v) Implementation of Tactical Plans
- vi) Follow-Up-Action

ENVIRONMENTAL SCANNING

The purpose of the scan is the identification of opportunities and threats affecting the business for making strategic business decisions. As a part of the environmental scanning process, the organization collects information regarding its environment and analyzes it to forecast the impact of changes in the environment.

Characteristics of Environmental Scanning

Continuous Process-

Exploratory Process

Dynamic Process

Holistic View



Importance of Environmental Scanning

Goal Accomplishment

- Threats and Weakness Identification
- Future Forecast
- Market Knowledge
- Focus on the Customer
- Opportunities Identification

Strategy Formulation

Strategy formulation is the process of selecting the most appropriate and efficient ways to realize an organization's vision and help it realize its goals and objectives. The strategy formulation process is a part of strategic management and involves using several analytical tools to figure out the best way to use an organization's resources.

Steps Of Strategy Formulation

- Determining Organizational Objectives
- Assessing the Organizational Environment
- Fixing Quantitative Targets
- Divisional Plans and Contributions From Different Departments
- Performance Analysis
- Choice of Strategy:

SWOT ANALYSIS

Swot analysis is the most renowned tool for audit and analysis of the overall strategic position of the business and its environment. Its key purpose is to identify the strategies that will create a firm specific business model that will best align an organization's resources and capabilities to the requirements of the environment in which the firm operates.

The four factors of SWOT

- Strengths,
- Weaknesses,
- Opportunities
- Threats

- 1. **Strengths** - Strengths are the qualities that enable us to accomplish the organization's mission.
- 2. **Weaknesses** - Weaknesses are the qualities that prevent us from accomplishing our mission and achieving our full potential .
- **Opportunities** - Opportunities are presented by the environment within which our organization operates.
- 4. **Threats** - Threats arise when conditions in external environment put at risk, the reliability and profitability of the organization's business

Advantages of SWOT Analysis

- a. It is a source of information for strategic planning.
- b. Builds organization's strengths.
- c. Reverse its weaknesses.
- d. Maximize its response to opportunities.
- e. Overcome organization's threats.
- f. It helps in identifying core competencies of the firm.
- g. It helps in setting of objectives for strategic planning

PROJECT MANAGEMENT

Network A network is a graphic representation of a project's operations and is composed of activities and events that must be completed to reach the end objective of a project, showing the planning sequence of time accomplishment, their dependence and inter-relationship.

- **Network Diagram Representation**

Event- An event represents the start (beginning) or completion (end) of some activity and as such it consumes no time.

- *Activity*- An activity is a task, or item of work to be done, that consumes time, effort, money or other resources .
- **1. Predecessor activity**- An activity which must be completed before one or more other activities start is known as predecessor activity .
- **2. Successor activity**- An activity which started immediately after one or more of other activities are completed is known as successor activity.
- **3. Concurrent activity** – Activities which can be accomplished concurrently are known as concurrent activities. It may be noted that an activity can be a predecessor or a successor to an event or it may be concurrent with one or more of other activities

- **4. Dummy activity-** An activity which does not consume either any resource or time is known as dummy activity. A dummy activity is depicted by dotted line in the network diagram.
- **PERT and CPM** are two statistical tools used to schedule and plan tasks or activities within a project. These methods are utilized to control time, resources, output and several other aspects of a project.

common Errors in Drawing Networks

- 1. Dangling:** To disconnect an activity before the completion of all activities in a network diagram is known as dangling.
- **2. Looping or Cycling:** Looping error is also known as cycling error in a network diagram. Drawing an endless loop in a network is known as error of looping .
- **3. Redundancy:** Unnecessarily inserting the dummy activity in network logic is known as the error of redundancy.

- **Program Evaluation Review Technique (PERT):** It is used to plan and identify the time taken to complete a particular activity in a project. Charts created via PERT provide a graphical representation of each task of a project's timeline.

Critical Path Method (CPM): It is a project modeling technique that is used for scheduling project activities. It simply finds the maximum time required to complete a specific task. A CPM model includes the following:

List of all activities involved in the project.

Dependence of each activity with one another.

Estimated time required to complete each activity .

critical path

The sequence of critical activities in a network is called critical path. The critical path is the longest path in the network from the starting event to ending event and defines the minimum time required to complete the project

Determination of critical path

Critical event – The events with zero slack times are called critical events. In other words the event i is said to be critical if $E_i = L_i$

Critical activity – The activities with zero total float are known as critical activities. In other words an activity is said to be critical if a delay in its start will cause a further delay in the completion date of the entire project.

• **Project Evaluation and Review Technique (PERT):**

- The main objective in the analysis through PERT is to find out the completion for particular event within specified date. The PERT approach takes into account the uncertainties.

1. **Optimistic time** – It is the shortest possible time in which the activity can be finished. It assumes that everything goes very well. This is denoted by t_o .

2. **Most likely time** – It is the estimate of the normal time the activity would take.

This assumes normal delays. If a graph is plotted in the time of completion and the frequency of completion in that time period, then most likely time will represent the highest frequency of occurrence. This is denoted by t_m .

3. **Pessimistic time** – It represents the longest time the activity could take if everything goes wrong. As in optimistic estimate, this value may be such that only one in hundred or one in twenty will take time longer than this value. This is denoted by t_p

● **PROJECT COST ANALYSIS**

A project cost analysis is a process that professionals can use to determine the value of a project's costs and benefits, which highlights if a project is feasible. It begins with a company determining a set price of revenue they want to generate from the project, then creating a list of all the project expenses, combined with the benefits that a company receives from the project once it's finished.

1. Determine a set price
2. List all associated costs
3. Convert cost to monetary value
4. List estimated benefits
5. Convert benefits to monetary value
6. Add costs together
7. Perform subtraction
8. Compare to your decided price

UNIT – V

CONTEMPORARY ISSUES IN MANAGEMENT

Management Information System(MIS)

MIS refers to the process of covering the application of people, technologies and procedures to solve business problems. It is a computer based system that provides managers with the tools for organizing, evaluating and efficiently running their department. MIS is responsibility to develop and design the reporting formats for various functional departments

Objectives of MIS

- Capturing Data
- Processing Data
- Information Storage
- Information Retrieval
- Information Propagation

Enterprise Resource Planning(ERP)

ERP is a process by which a company manages and integrates the important parts of its business. An ERP management information system integrates areas such as planning, purchasing, inventory, sales, marketing, finance, and human resources.

Definition:

ERP would be a set of software applications that organize, define and standardize the business process necessary to effectively plan and control an organization.



Customer Relationship Management

- CRM is an enterprise application module that manages a company's interactions with current and future customers by organizing and coordinating, sales and marketing, and providing better Customer services along with technical support.
- **CRM important for:**
- Customer Experience
- Increases customer loyalty
- Customer engagement

Functions of CRM

- Acquiring & Storing Information
- Customer Management
- Management of Marketing Policies
- Increase Sales
- Proper Communication Network

Materials Requirement Planning (MRP)

MRP is Software based production planning and inventory control system used to manage manufacturing process. There are two out puts in MRP

- Recommended Production Schedule (A)
- Recommended Purchase Schedule (B)

Objectives of MRP

- To ensure the availability of materials and products for production and delivery to customers.
- To maintain the lowest possible level of inventory
- To plan manufacturing activities, delivery schedules and purchasing activities

Total Quality Management(TQM)

TQM is a set of Management practices followed by organization wide geared to ensure the organization consistently meets or exceeds customer requirements. TQM means of continuous improvement. TQM requires the company to maintain quality standard in all aspects.

Prerequisites for TQM

- Customer-Focused
- Involvement of the Employee
- Process-Centered
- Strategic Approach
- Continuous Improvement
- Decision Making
- Communication

Six Sigma

Six Sigma is a set of practices developed by Motorola to systematically improve processes by eliminating defects. A defect is defined as non conformity or product or service to its specifications. Six Sigma simply means a measure of quality that strives for near perfection.

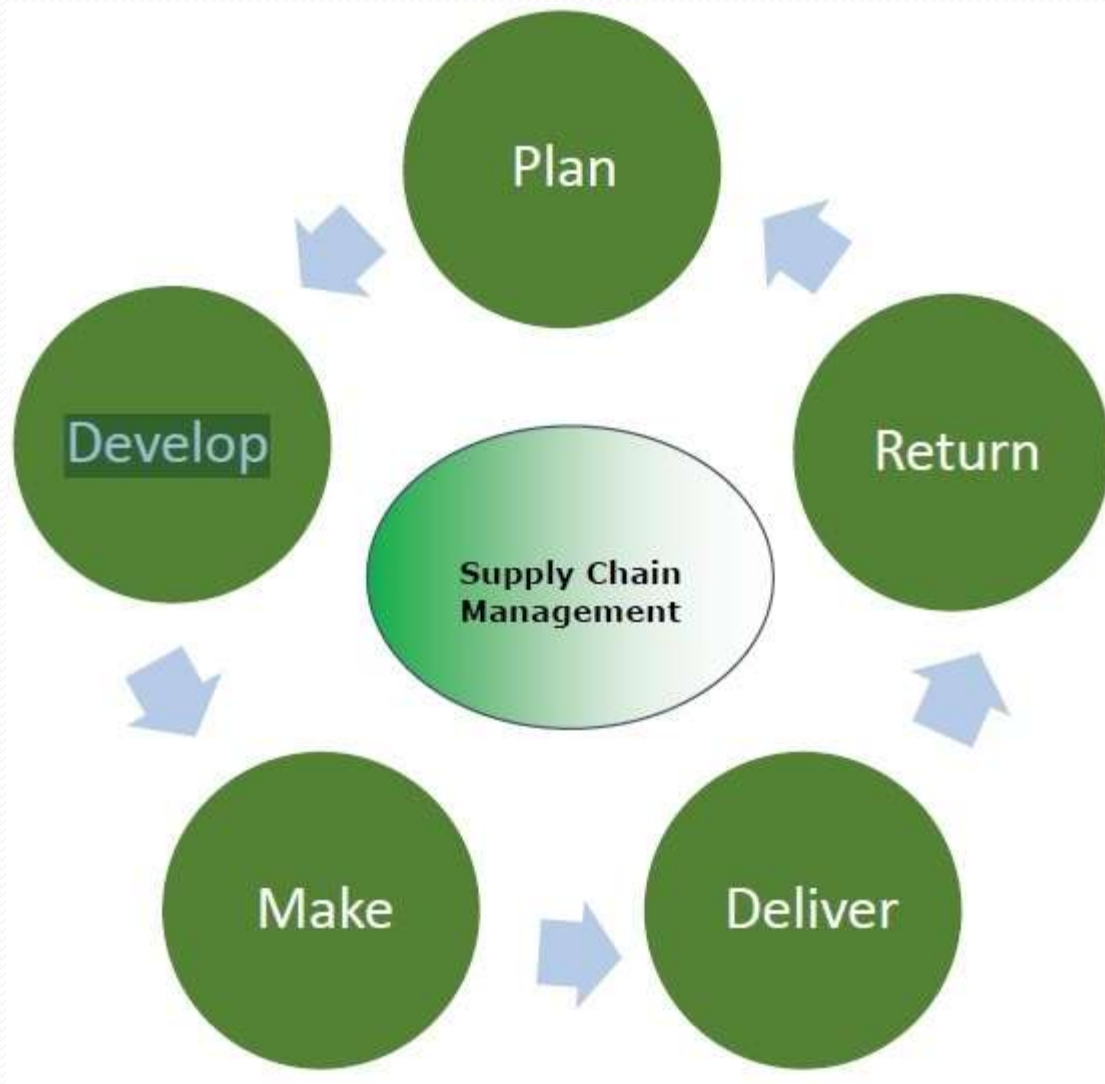
Six Sigma Methodologies

- **DMAIC :**
Define
Measure
Analyse
Improve
Control
- **DMADV :**
Define
Measure
Analyse
Design
Verify

Supply chain management

Supply chain management is the process of planning, implementing, and controlling the operations of the supply chain as efficiently as possible. Supply chain management encompasses the planning and management of all activities involved in sourcing, procurement, conversion, and logistics management activities.





Performance management

It is a strategic and integrated approach to delivering sustained success to organization by improving the performance of the people who work in them and by developing their capabilities as teams and individuals.

The steps of performance management are

- Performance planning
- Performance coaching
- Performance appraisal

Performance Management Process:

- Plan
- Act
- Monitor
- Review

Business Process Outsourcing(BPO)

BPO is a contracting of a specific business task, such as payroll, to a third party service provider. BPO is implemented as a cost-saving measure for tasks that a company requires but does not depend upon to maintain its position in the marketplace. BPO divided in to two categories

- Back office out sourcing
- Front office outsourcing

Types of BPO

- Off shore Outsourcing
- Near shore Outsourcing
- On shore Outsourcing

Business Process Reengineering (BPR)

BPR is a management approach aiming at improvement by means of elevating and effectiveness of the process that exist with in and across organization. BPR derives its existence from different disciplines, and four major areas can be identifies as being subjected to change in BPR. The areas are Organization, Technology, Strategy, and People

Benchmarking

It is process of comparing an organization's operations and internal process those of other organizations within of outside its industry. It is a systematic process- it must have framework and use a standard set of attributes that are measurable to compare multiple organizations objectively.

Reasons of Benchmarking:

1. Defining Customer Requirements
2. Establishing Effective Goals and Objectives
3. Developing True Measures of Productivity
4. Becoming Competitive
5. Industry Best Practices to be Achieved

Types of Benchmarking

- Internal Benchmarking
- External Benchmarking
- Generic Benchmarking
- Functional Benchmarking
- Competitive Benchmarking
- Compatible Industry Benchmarking
- Strategic Benchmarking
- Global Benchmarking

Balanced Scorecard (BSC)

It defined as a Strategic feedback system that enables program managers to make better decisions faster, smarter, and easier then ever before. It is a new approach to strategic management developed in 1990's by Robert Kaplan and David Nortion. The objectives are

- Evaluating the performance of an organization
- Designing the performance management system

Benefits of the Balanced Scorecard

1. Better Strategic Planning
2. Better Alignment of Projects & Initiatives
3. Focused Performance Reporting
4. Improved Organizational Alignment
5. Improved Process Alignment