SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES,
CHITTOOR,
(AUTONOMOUS)
Approved by AICTE, New Delhi, Affiliated to JNTUA, Ananthapuramu

Lecture Notes

Subject Notes: Management Science

Year/Branch: IV/ECE/EEE/Civil & Mech

Regulations: R23

Prepared By: Mr. S.L. Sai Venkat

1. Syllabus contents

IV B. TECH.-VII SEMESTER

23HSM471C **MANAGEMENT SCIENCE** **L T P C**
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PRE-REQUISITES: NIL

COURSE EDUCATIONAL OBJECTIVES:

1. To provide fundamental knowledge on Management, Administration, Organization & its concepts;
2. To make the students understand the role of management in Production;
3. To impart the concept of HRM in order to have an idea on Recruitment, Selection, Training & Development, Job Evaluation and Merit Rating concepts;
4. To create awareness on identify Strategic Management areas & the PERT/CPM for better Project Management;
5. To make the students aware of the contemporary issues in modern management.

UNIT- I INTRODUCTION TO MANAGEMENT (9)

Management - Concept and meaning - Nature-Functions - Management as a Science and Art and both - Schools of Management Thought - Taylor's Scientific Theory - Henry Fayol's principles - Elton Mayo's Human relations - Organizational Designs - Line organization - Line & Staff Organization - Functional Organization - Matrix Organization - Project Organization - Committee form of Organization - Social Responsibilities of Management.

UNIT - II OPERATIONS MANAGEMENT (9)

Principles and Types of Plant Layout - Methods of Production (Job, batch and Mass Production), Work Study - Statistical Quality Control- Material Management - Objectives Inventory-Functions - Types, Inventory Techniques – EOQ - ABC Analysis - Marketing Management - Concept - Meaning – Nature - Functions of Marketing - Marketing Mix - Channels of Distribution - Advertisement and Sales Promotion - Marketing Strategies based on Product Life Cycle.

UNIT - III HUMAN RESOURCES MANAGEMENT (HRM) (9)

HRM - Definition and Meaning – Nature - Managerial and Operative Functions - Job Analysis - Human Resource Planning (HRP) - Employee Recruitment - Sources of Recruitment - Employee Selection - Process - Employee Training and Development - Methods - Performance Appraisal Concept - Methods of Performance Appraisal – Placement - Employee Induction - Wage and Salary Administration.

UNIT - IV STRATEGIC & PROJECT MANAGEMENT (9)

Definition & Meaning - Setting of Vision - Mission - Goals - Corporate Planning Process - Environmental Scanning - Steps in Strategy Formulation and Implementation - SWOT Analysis - Project Management - Network Analysis - Programme Evaluation and Review Technique (PERT) - Critical Path Method (CPM) Identifying Critical Path - Probability of Completing the project within given time - Project Cost- Analysis - Project Crashing (Simple problems).

UNIT - V CONTEMPORARY ISSUES IN MANAGEMENT (9)

Customer Relations Management (CRM) - Total Quality Management (TQM) - Six Sigma Concept - Supply Chain Management (SCM) - Enterprise Resource Planning (ERP) - Performance Management – Employee Engagement and Retention - Business Process Re-engineering and Bench Marking - Knowledge Management – Change Management – Sustainability and Corporate Social Responsibility.

Total Hours: 45

COURSE OUTCOMES:

On successful completion of the course, students will be able to		POs
CO1	Remember the concepts & principles of management and designs of organization in a practical world	**PO6, PO9, PO10, PO11, PO12**
CO2	Understand the knowledge of Work-study principles & Quality Control techniques in industry	**PO2, PO9, PO10, PO11, PO12**
CO3	Apply the process of Recruitment & Selection in organization.	**PO9, PO10, PO11, PO12**
CO4	Analyze the concepts of HRM & different training methods.	**PO2, PO3, PO4, PO5, PO9, PO10, PO11,PO12**
CO5	Evaluate PERT/CPM Techniques for projects of an enterprise and estimate time & cost of project & to analyze the business through SWOT	**PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11,PO12**

TEXT BOOKS:

1. Frederick S. Hillier, Mark S. Hillier. Introduction to Management Science, October 26, 2023.
2. A.R Aryasri, Management Science, TMH, 2019

REFERENCE BOOKS:

1. Stoner, Freeman, Gilbert.Management, Pearson Education, New Delhi, 2019.
2. Introduction to Management Science, 12e, Bernard W. Taylor, Pearson Education, New Delhi, 2016
3. Koontz & Weihrich, Essentials of Management, 6/e, TMH, 2005.
4. Kanishka Bedi, Production and Operations Management, Oxford University Press, 2004.
5. Samuel C.Certo, Modern Management, 9/e, PHI, 2005
6. R.K. Rajput, "A Textbook of Manufacturing Technology: Manufacturing Processes", 2/e, Laxmi Publications (P) Ltd., New Delhi, 2017.

REFERENCE WEBSITE:

1. https://www.slideshare.net/slideshow/introduction-to-management-and- organization231308043/23130804
2. https://nptel.ac.in/courses/112107238
3. https://archive.nptel.ac.in/courses/110/104/110104068/
4. https://archive.nptel.ac.in/courses/110/105/110105069/
5. https://onlinecourses.nptel.ac.in/noc24_mg112

CO-PO MAPPING:

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	-	-	-	-	-	2	-	-	3	2	2	3
CO2	-	2	-	-	-	-	-	-	2	2	2	3
CO3	-	-	-	-	-	-	-	-	3	2	2	3
CO4	-	2	2	2	2	-	-	-	2	2	2	3
CO5	-	2	2	2	2	2	2	3	2	2	2	3
CO*	**-**	**2**	**2**	**2**	**2**	**2**	**2**	**3**	**2.6**	**2**	**2**	**3**

UNIT-1
INTRODUCTION TO MANAGEMENT

MANAGEMENT SCIENCE

"Management is doing things right; leadership is doing the right things."

_ Peter Drucker

UNIT OVERVIEW

Management is the process of planning, organizing, staffing, directing, and controlling the resources of an organization to achieve predetermined goals effectively and efficiently. This unit introduces the fundamental concepts of management, including its meaning, nature, functions, and significance. It explains management as a science, an art, and a profession while discussing the major schools of management thought developed by pioneers such as F.W. Taylor, Henri Fayol, and Elton Mayo. The unit also covers different organizational structures such as Line, Line and Staff, Functional, Matrix, Project, and Committee organizations. Finally, it highlights the social responsibilities of management towards employees, customers, society, and the environment.

OBJECTIVES OF THE UNIT

After studying this unit, students will be able to:

1. Understand the concept, meaning, and nature of management.
2. Explain the various functions of management.
3. Differentiate management as a science, an art, and a profession.
4. Understand the contributions of F.W. Taylor, Henri Fayol, and Elton Mayo to management thought.
5. Identify different organizational structures and their applications.
6. Compare various forms of organizational design.
7. Understand the concept and importance of social responsibility in management.
8. Apply management principles in business and organizational situations

LEARNING OUTCOMES:

- Define management and explain its characteristics.
- Describe the major functions of management.
- Analyze management as a science, an art, and a profession.
- Explain the principles of Scientific Management by F.W. Taylor.
- Describe Henri Fayol's principles of management.
- Understand Elton Mayo's Human Relations Theory and its importance.
- Differentiate between various organizational structures.
- Select appropriate organizational structures for different business situations.
- Explain the importance of social responsibility in modern organizations.
- Develop a basic understanding of management practices used in organizations.

MANAGEMENT SCIENCE

Importance of Studying the Unit

This unit provides the basic knowledge of management, which is essential for understanding how organizations operate. It helps students learn the functions of management, different management theories, and organizational structures. It also develops decision-making, leadership, and problem-solving skills. Understanding this unit prepares students for higher management studies and future careers in business and management.

Key Concepts

Management, Nature of Management, Functions of Management, Management as Science, Management as Art, Management as Science & Art, Schools of Management Thought, Scientific Management (F.W. Taylor), Fayol's Principles of Management, Human Relations Theory (Elton Mayo), Organizational Design, Line Organization, Line and Staff Organization, Functional Organization, Matrix Organization, Project Organization, Committee Organization, Social Responsibility of Management, Planning, Organizing, Staffing, Directing, Controlling, Efficiency, Effectiveness, Leadership, Decision Making, Coordination, Organizational Goals.

Introduction to Management:-

In the modern times one of the most important human activities is managing group of people. Ever since people began forming groups to accomplish aims they could not achieve as individuals, managing has been essential to ensure the coordination of individual efforts. As society has come to rely increasingly on group effort and as many organized groups have become large the task of managers has been rising in importance. Management is the process of designing and maintaining an environment in which individuals working together in groups efficiently accomplish selected aims.

What Is Management?

Management is the process of planning and organising the resources, operations and workflow of a business to achieve specific goals in the most effective and efficient manner possible.

- **Efficiency** in management refers to the completion of tasks correctly and at minimal costs.
- **Effectiveness** in management relates to the completion of tasks within specific timelines to yield tangible results.

MANAGEMENT SCIENCE

DEFINITION:-

1. Management is the art of getting things done through and with people in formally organized groups‖ **--- Koontz —**
2. Management is the art of knowing what you want to do and then seeing that it is done in the best and cheapest way‖ **–F.W. Taylor**
3. Management is the accomplishment of results through the efforts of other people‖ **-- Lawrence**

Characteristics of Management:-

Multi-dimensional

Most management oversees and supervises a company or organisation's service or production cycle. Managers provide guidance and work closely with the members of their team. A manager considers a staff member both as an individual with diverse needs and as a component of the larger group. To be effective, managers influence their team members to apply their unique strengths toward achieving the organisation's goals.

Dynamic

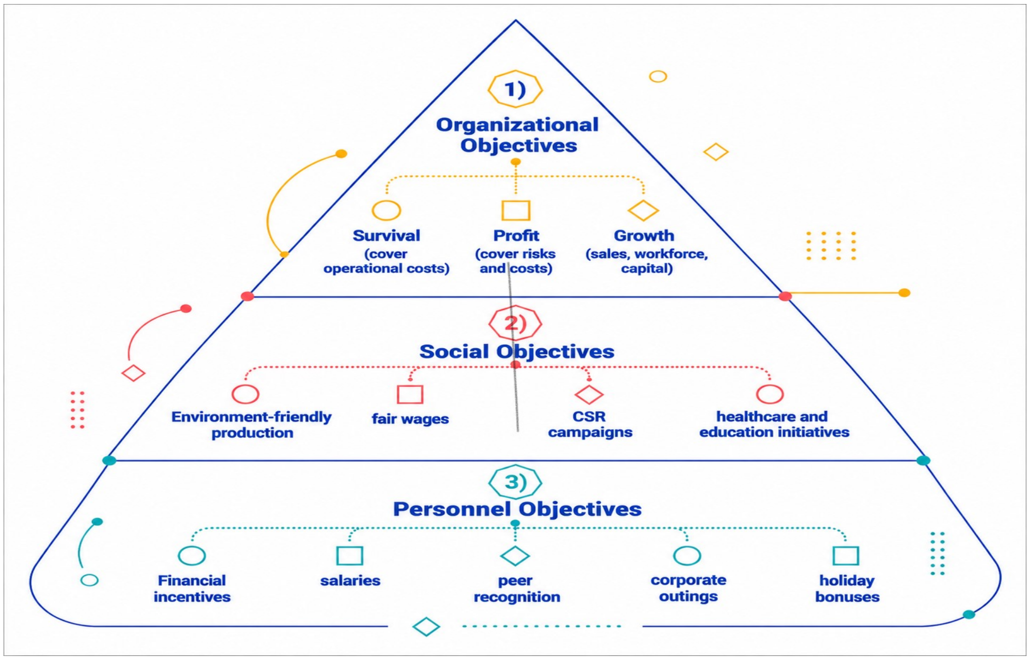
Management is a dynamic function and evolves and adapts to changes in its environment, whether they are economic, socio-political or technological. For instance, a paper company could see a decline in sales because of the rapid adoption of screens and digital devices. Whether the company can still survive depends on how effectively its management can adapt to new market requirements.

Intangible

Management is not a tangible product, but its presence can change the way an organisation functions. Management consists of ideologies, policies and human interaction. Good management helps improve a company's target achievement ratios, employee gratification levels and overall ease in the company's operation.

Objectives of Management

Management can have mainly three types of objectives:



Organisational objectives

Management should consider the interests of all company stakeholders, including employees, customers and the government. Managers are responsible for setting and achieving goals for the organisation. Typically, the primary aim of an organisation is to achieve growth by utilising its human, material and financial resources. There are three general organisational objectives for any company:

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Survival: An organisation needs to generate enough revenues to cover its operational costs.

Profit: Profit provides incentive and is essential for covering unprecedented costs and risks associated with running a business.

Growth: You can measure the growth of a business in terms of increases in sales volume, workforce and capital investment.

Social objectives

To an extent, the management is also responsible for creating benefits for the society through their work. Companies choose to do this in different ways. Some may incorporate environment-friendly methods of production, while others implement fair wages and opportunities. Larger companies often maintain or fund initiatives that provide basic amenities like healthcare and education. Based on the scale of their operations, companies often initiate CSR (Corporate Social Responsibility) campaigns that benefit society in different ways.

Personnel objectives

The management typically decides the financial incentives, salaries and social initiatives for their employees. Activities that improve peer recognition and interaction like corporate outings and holiday bonuses cater to the personnel's social growth and development.

<u>Importance of Management</u>

1. Helps in achieving group goals:

Effective management gives a common direction to individual efforts and guides them towards achieving the overall goals of an organisation.

2. Increases efficiency:

Efficiency reduces costs and increases productivity in all spheres of an organisation's work.

3. Creates a dynamic organisation:

Management helps its personnel in adapting to change so that the organisation continues to maintain its competitive edge. How well an organisation can respond and adapt to change can mean the difference between its success and failure.

4. Helps in achieving personal objectives:

Effective management fosters team spirit, cooperation and commitment to achieve the organisational goals as a group, which helps each term member achieve their personal objectives.

MANAGEMENT SCIENCE

<u>Nature of Management</u>

- **Goal-Oriented:** Every management activity is designed to achieve specific, predetermined organizational objectives.
- **Continuous Process:** Management is an ongoing, cyclical process rather than a one-time task.
- **Pervasive Activity:** It is required in all types of organizations (business, non-profit) and at all hierarchical levels (top, middle, and lower).
- **Multidimensional:** Management manages work, manages people, and manages operations simultaneously.
- **Art and Science:** It is a science due to its systematic body of knowledge, and an art due to the personalized application of skills and creativity.
- **Intangible Force:** Management cannot be physically seen, but its presence is evident in the results, smooth functioning, and achievement of targets.

<u>Functions of Management:-</u>

Many organisations divide management into **five key functions** of management that cover a wide range of duties. Although distinct from one another, each main function interacts with the others and influences a company's overall success. These are commonly referred to as the primary variant of managerial responsibilities.

1. Planning

In the planning stage, managers establish organisational goals and create a course of action to achieve them. The process of planning is essential to align with the objectives of management. During this phase, management makes strategic decisions to set a direction for the organisation. Managers can brainstorm different alternatives before choosing the best path to reach desired goals.While planning, managers typically evaluate the business environment by conducting an in-depth analysis of the organisation's current status, considering its vision and mission, and assessing available resources

- **Strategic planning:** This aligns with long-term organisational goals, often spanning three years or more. Strategic planning includes analysing threats and strengths and determining how to best compete in the market, supporting the goal-oriented nature of effective management.
- **Tactical planning**: Tactical planning targets short-term objectives, typically within a year, often at the middle level of management. It may focus on improving a specific department like marketing, financial management or operations.
- **Operational planning**: This links strategic and tactical plans by detailing daily actions. It helps implement the principles of management at every level of management.

2. Staffing

Staffing is a core function of management involving recruitment, hiring and development. It ensures that the group of people within an organisation are aligned toward common goals and capable of adapting to a dynamic function. This function supports human resource strategies and sustains a healthy work environment.Staffing begins with determining how many employees are needed and creating ideal candidate profiles. It is not a one-time action but an ongoing process due to changing roles and employee turnover.Key staffing tasks include:

- **Recruiting**: Managers advertise vacancies via multiple channels and tap into professional networks, making use of both online portals and referrals.
- **Interviewing**: This helps assess if a candidate fits the team and aligns with the organisation's vision and social responsibilities.
- **Hiring**: Managers ensure all legal and documentation procedures are followed.
- **Training**: Both new and existing employees receive training to develop new skills or improve current ones.

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- **Evaluating**: Through periodic reviews, managers identify strong team members and make decisions regarding promotions or reassignments.

3. Organising

Organising refers to structuring the enterprise to efficiently use available resources to accomplish organisational goals. It includes defining roles, grouping activities and assigning authority across different levels of management. This helps ensure that team members work in unison and understand their specific responsibilities, a key characteristic of effective management.A well-organised business management system ensures everyone knows who to report to and what to deliver, promoting teamwork and group effort. Key responsibilities in this function include:

- **Delegation**: Roles and priorities are defined, ensuring each team member focuses on their assigned tasks.
- **Department structuring**: Management evaluates if departments are functioning effectively or need to be reorganised to enhance focus and productivity.
- **Distributing authority**: This ensures accountability by establishing reporting systems and clarity in decision-making processes, often involving middle level and lower level managers.

4. Leading/Directing:-

Leading involves motivating the group of persons within the organisation to work toward common goals. Unlike other management functions focused on processes or systems, leading deals more with people and their behaviour. It includes goal-oriented strategies to inspire team members, ensuring alignment with the organisation's mission. Effective managers rely on interpersonal skills to create a positive work environment. They implement different leadership styles depending on the situation, drawing from the teachings of Henri Fayol and scientific management principles.Common leadership styles include:

- **Directing**: A suitable approach for new hires needing guidance, with minimal employee input.
- **Coaching**: A collaborative approach where managers encourage input and aim to build trust.
- **Supporting**: Ideal for experienced employees requiring motivation and interpersonal connection.
- **Delegating**: For employees who work independently, allowing the manager to focus on strategic objectives.

5. Controlling

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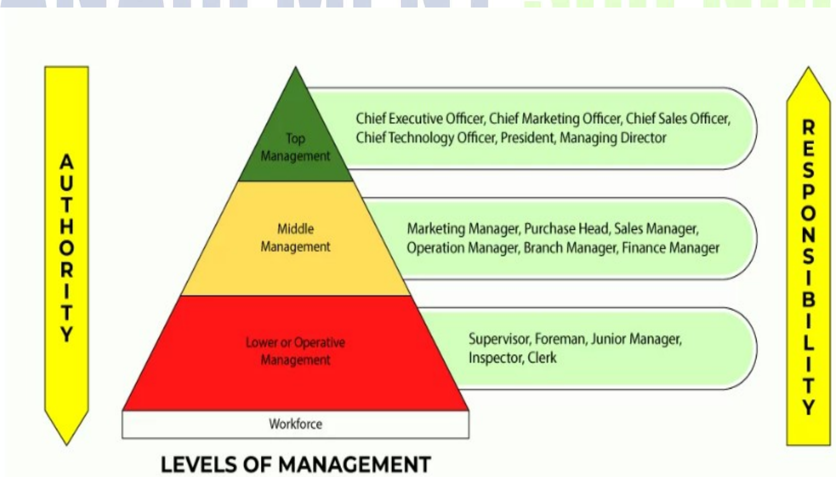
Controlling ensures that the implementations of the management plans are progressing toward organisational goals. It involves performance analysis, measuring deviations and taking corrective actions to align activities with predetermined goals. Managers perform control activities in all departments, including operations, staffing, marketing and financial management. Controlling is a continuous process that adapts to changing scenarios and stakeholder expectations. Managers control outcomes by:

- **Conducting performance reviews**: Regular assessments of team members through key performance indicators help in decision-making and evaluating contributions to common goals.
- **Reducing inefficiencies**: Through process analysis and revision, inefficiencies are addressed to save costs and improve productivity.
- **Adjusting budgets**: Ensuring that the spending aligns with strategic planning and financial projections, with adjustments as needed.
- **Developing improved products**: Customer feedback is essential for implementing changes and fostering innovation, keeping in line with the organisation's vision and social responsibility.

Levels of Management:-



1. Top Management

Top Management is the highest level in an organization and is responsible for making major decisions and setting long-term goals. They formulate policies, plan strategies, and guide the organization toward achieving its objectives. They are accountable for the overall success of the organization.

Example: If a company decides to open a new branch in another city, the decision is made by the CEO or Managing Director after analyzing market opportunities and business growth.

2. Middle Management

Middle Management acts as a bridge between Top Management and Lower Management. They implement the policies and plans developed by Top Management and coordinate the activities of different departments. They also monitor departmental performance and report the progress to senior management.

Examples: Marketing Manager, Finance Manager, Sales Manager, Operations Manager, Purchase Head, Branch Manager.

3. Lower (Operative) Management

Lower Management supervises the daily work of employees and ensures that organizational activities are carried out efficiently. They assign work, maintain discipline, solve day-to-day problems, and report operational performance to Middle Management.

Examples: Supervisor, Foreman, Junior Manager, Inspector, Clerk.

Workforce

The workforce forms the foundation of the organization. These employees perform the actual operational work and contribute directly to producing goods or delivering services. They work under the guidance of Lower Management.

Examples: Machine Operators, Sales Executives, Technicians, Office Staff, Helpers, and Data Entry Operators.

Authority and Responsibility

In the management hierarchy, **authority and responsibility increase from the lower level to the top level**. Top Management has the highest authority to make strategic decisions and carries the greatest responsibility for the organization's success. Middle Management has moderate authority to manage departments, while Lower Management has limited authority focused on supervising daily operations.

Simple Example

Consider a college as an example. The **Principal** (Top Management) decides to introduce a new MBA specialization. The **Head of the MBA Department (Middle Management)** prepares the curriculum and assigns faculty members. The **Course Coordinator (Lower Management)** prepares the class timetable and monitors daily activities. Finally, the **Faculty Members and Staff (Workforce)** teach students and perform the academic and administrative tasks.

Management as a science and art and both:-

Management As Science

Yes, science is a systematic body of knowledge based on facts, observation, experimentation, and verification. It explains cause-and-effect relationships and develops principles that can be applied in practice. Management also has these characteristics.

1. Universally Acceptance Principles

Scientific principles are universally applicable. Similarly, management principles such as **Unity of Command (one man, one boss)** can be applied to all types of organizations, whether business or non-business.

2. Experimentation & Observation

Scientific principles are developed through observation, research, and experiments. Likewise, management principles are based on practical experience and scientific enquiry, not merely on opinions. For example, fair remuneration creates a satisfied and motivated workforce.

3. Cause & Effect Relationship

Science explains the relationship between cause and effect. Similarly, management establishes such relationships. For example, imbalance between authority and responsibility leads to inefficiency, while fair wages and bonuses improve employee productivity.

4. Test of Validity & Predictability

Scientific principles can be tested repeatedly and produce consistent results. Management principles can also be tested, such as the principle of Unity of Command, where an employee with one boss generally performs better than one with multiple bosses. However, management is not as exact as physical sciences because it deals with human behavior. Hence, it is considered a **social, behavioral, and soft science**, as described by Ernest Dale.

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<u>Management as Art</u>

Art is the practical application of knowledge and skills to achieve desired results. Management is also an art because it requires applying principles effectively in real-life situations.

1. Practical Knowledge

Every art requires practical knowledge along with theory. Similarly, a manager must not only learn management principles but also know how to apply them effectively in real situations.

2. Personal Skill

Every artist has a unique style. Likewise, every manager has a different approach based on knowledge, experience, and personality, which influences success.

3. Creativity

Art involves creativity and innovation. Similarly, management creatively combines human and non-human resources to achieve organizational goals efficiently.

4. Perfection through Practice

Practice improves performance in every art. In the same way, managers become more effective through continuous practice, experience, and learning from trial and error.

5. Goal-Oriented

Every art aims to achieve specific results. Likewise, management focuses on accomplishing organizational goals by effectively utilizing men, money, materials, machinery, and methods.

6. Work by Effectively

A manager effectively handles problems in different organizational environments. The ability to manage changing situations depends more on skill than theory, making management an art.

<u>Management as both Science and Art</u>

Management is both a science and an art because it combines the features of both. It is a science as it has a systematic body of knowledge with universal principles. It is an art because managers require personal skills to apply these principles effectively.

Science provides knowledge, while art focuses on its application. A successful manager must understand management principles and know how to apply them in solving practical problems. Thus, science teaches **"to know"** and art teaches **"to do."**

Just as a singer needs both knowledge of ragas and the skill to sing, a manager needs both management knowledge and practical ability. Therefore, science and art are complementary, not contradictory. The belief that **"Managers are Born"** has been replaced by **"Managers are Made."** Management is rightly called **the oldest of arts and the youngest of sciences.** In conclusion, **science is the root and art is the fruit.**

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<u>Taylor's Scientific Management Theory</u>

Scientific Management Theory was developed by **Frederick Winslow Taylor**, who is known as the **Father of Scientific Management**. He introduced scientific methods to improve productivity and efficiency in industrial organizations. His objective was to eliminate waste, increase output, and promote cooperation between workers and management.

<u>Principles of Scientific Management</u>

1. Science, Not Rule of Thumb

Managers should replace traditional methods with scientific study and analysis to determine the best way of performing each task.

2. Harmony, Not Discord

Management and workers should work together in a spirit of mutual trust and cooperation instead of conflict.

3. Cooperation, Not Individualism

There should be close cooperation between managers and employees to achieve organizational objectives.

4. Maximum Output

The objective should be to increase productivity and efficiency rather than restricting production.

Henri Fayol's 14 Principles of Management

Henri Fayol, a French management theorist, is known as the **Father of Administrative Management**. He developed **14 Principles of Management** to improve organizational efficiency and guide managers in performing their duties effectively. These principles are universal and can be applied to all types of organizations.

Henri Fayol's 14 Principles of Management

1. Division of Work

Work should be divided among employees according to their skills and specialization. This increases efficiency and productivity.

2. Authority and Responsibility

Managers should have the authority to give orders and the responsibility to ensure that work is completed properly.

3. Discipline

Employees should obey organizational rules, regulations, and agreements. Discipline is essential for smooth functioning.

4. Unity of Command

Each employee should receive orders from only one superior to avoid confusion and conflict.

5. Unity of Direction

Activities with the same objective should be directed by one manager under one plan.

6. Subordination of Individual Interest to General Interest

The interests of the organization should take priority over the personal interests of individual employees.

7. Remuneration

Employees should receive fair and adequate wages for their services to motivate better performance.

8. Centralization

The degree of decision-making authority should be balanced between top management and lower levels according to organizational needs.

9. Scalar Chain

There should be a clear line of authority and communication from the highest level to the lowest level in the organization.

10. Order

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There should be a proper place for everything and everyone. Resources and employees should be organized systematically.

11. Equity

Managers should treat employees with fairness, kindness, and justice to maintain loyalty and motivation.

12. Stability of Tenure of Personnel

Employees should have job security because frequent employee turnover reduces efficiency and increases costs.

13. Initiative

Employees should be encouraged to take initiative and suggest new ideas. This promotes innovation and job satisfaction.

14. Esprit de Corps

Management should promote team spirit, unity, cooperation, and harmony among employees to improve organizational performance.

Elton Mayo's Human Relations Theory

Meaning of Human Relations Theory

Human Relations Theory states that the success of an organization depends on good relationships between management and employees. It emphasizes employee satisfaction, motivation, teamwork, communication, and participation in decision-making.

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Principles of Human Relations Theory

1. Employees are Social Beings

Workers have social and emotional needs in addition to economic needs. They perform better when these needs are satisfied.

2. Importance of Motivation

Employee motivation is essential for improving productivity. Both financial and non-financial incentives play an important role.

3. Effective Communication

Open and clear communication between managers and employees improves understanding, trust, and cooperation.

4. Teamwork and Cooperation

Employees work more effectively when they cooperate and maintain good relationships with one another.

5. Participative Management

Employees should be encouraged to participate in decision-making. This increases their commitment and job satisfaction.

6. Good Leadership

Managers should act as supportive leaders by guiding, encouraging, and helping employees rather than merely issuing orders.

Organizational Design

Meaning

Organizational design is the framework that defines roles, responsibilities, authority relationships, communication channels, and reporting structures in an organization. It helps in establishing a clear system for coordination and control.

Types of Organisational Design

1. Functional Structure

In this design, the organization is divided into departments based on functions such as production, marketing, finance, and human resources.

2. Divisional Structure

In this design, the organization is divided based on products, services, or geographical regions.

3. Matrix Structure

This design combines both functional and divisional structures. Employees report to two managers: functional manager and project manager.

4. Line Organisation

It is the simplest form where authority flows in a straight line from top to bottom.

5. Staff Organisation

In this structure, specialists provide advice and support to line managers.

What is Organisation

Organisation refers to a collection of people who are working towards a common goal and objective. In other words, it can be said that organisation is a place where people assemble together and perform different sets of duties and responsibilities towards fulfilling the organisational goals.

Types of Organisation and their Structure

There are two broad categories of organisation, which are:

1. Formal Organisation
2. Informal Organisation

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Formal Organisation: Formal organisation is that type of organisation structure where the authority and responsibility are clearly defined. The organisation structure has a defined delegation of authority and roles and responsibilities for the members.

The formal organisation has predefined policies, rules, schedules, procedures and programs. The decision making activity in a formal organisation is mostly based on predefined policies.

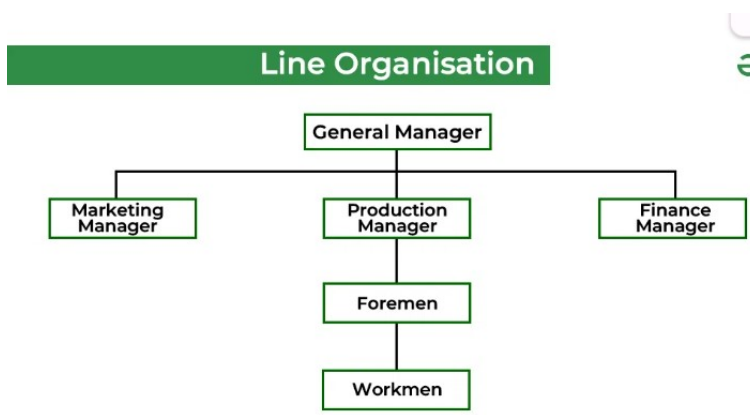
Formal organisation structure is created by the management with the objective of attaining the organisational goals.

There are several types of formal organisation based on their structure, which are discussed as follows:

1. Line Organisation
2. Line and Staff Organisation
3. Functional Organisation
4. Project Organisation
5. Matrix Organisation

Let us learn about these organisation structures in detail in the following lines.

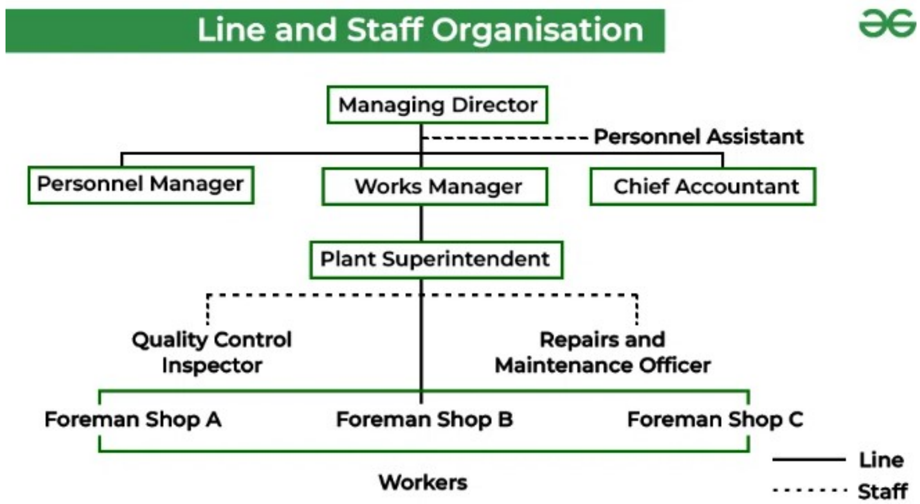
Line Organisation:



Line organisation is the simplest organisation structure and it also happens to be the oldest organisation structure. It is also known as Scalar or military or departmental type of organisation.

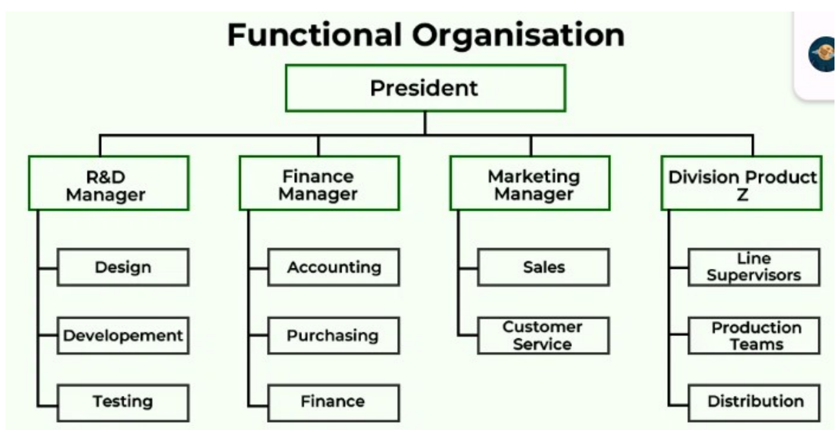
In this type of organisational structure, the authority is well defined and it flows vertically from the top to the hierarchy level to the managerial level and subordinates at the bottom and continues further to the workers till the end.

Line and Staff Organisation:

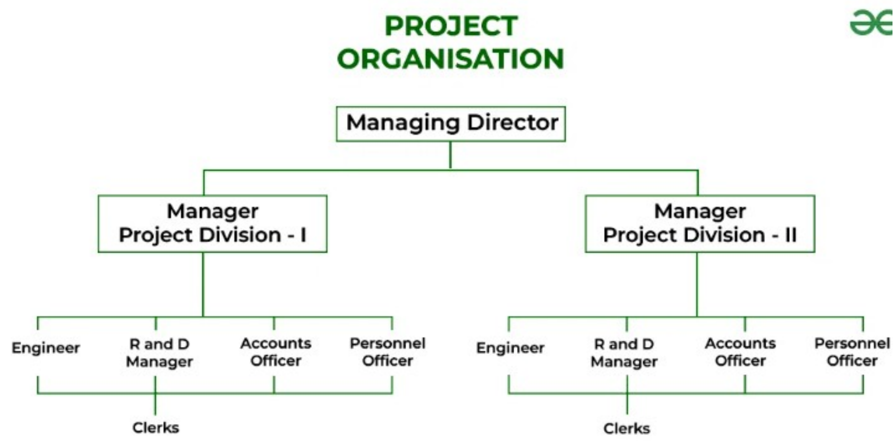


Line and staff organisation is an improved version of the line organisation. In line and staff organisation, the functional specialists are added in line. The staff is for assisting the line members in achieving the target effectively.

Functional Organisation: Functional organisation structure is the type of organisation where the task of managing and directing the employees is arranged as per the function they specialise. In a functional organisation, there are three types of members, line members, staff members and functional members.

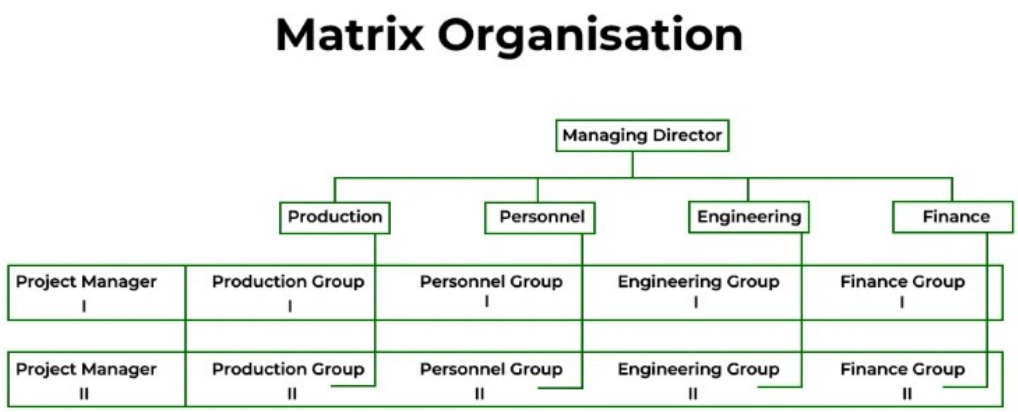


Project Organisation:



A project organisation is a temporary form of organisation structure that is formed to manage projects for a specific period of time. This form of organisation has specialists from different departments who are brought together for developing a new product.

Matrix Organisation:



Matrix organisation is the latest form of organisation that is a combination of functional and project organisation. In such organisations there are two lines of authority, the functional part of the organisation and project management part of the organisation and they have vertical and horizontal flow of authority, respectively.

Informal Organisation: Informal organisations are those types of organisations which do not have a defined hierarchy of authority and responsibility. In such organisations, the relationship between employees is formed based on common interests, preferences and prejudices.

<u>Social Responsibilities of Management</u>

Introduction

Social responsibility of management refers to the obligation of business organizations to act in a way that benefits society along with achieving their economic goals. Modern management is not only concerned with profit maximization but also with the welfare of employees, customers, society, and the environment.

What is social responsibility management?

Social responsibility management is the process of organizing and overseeing efforts to improve the community and address social issues. Managers can improve their leadership by incorporating a focus on accountability to society and the community. Areas include philanthropic, economic, ethical and environmental social responsibility efforts, and many organizations choose to create a social responsibility management plan that incorporates various types of social focus. This can include supporting and maintaining the environment, collaborating with local charities and organizations and aligning marketing and promotional materials with positive messages.

Benefits of social responsibility management

These are some benefits of social responsibility management:

Improved community: By implementing social responsibility management in your management style, you can improve your community. This can be through improving the environment, strengthening relationships and heightening voices.

Boosted image: Investing in social responsibility management can supply the marketing team with additional materials and focus for commercials and advertisements. This can give the brand a boosted image in the press and in the public.

Increased customer base: You may be more likely to attract customers with positive outlooks and associations with your brand when you implement social responsibility management. Consumers can act as additional marketing for the brand by talking to others about the products, services and social ideals the company holds.

Skilled management: Training leaders within an organization to understand and implement social responsibility management can help them improve their knowledge and strengthen their skills. For example, when managers learn to prioritize the community in decision-making, they also learn to prioritize members of their team.

Types of social responsibility

As a manager, you can create a social responsibility management plan that includes a single focus or encompasses many responsibilities to the community. These are the different types of social responsibility:

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Philanthropic

Philanthropic issues are those that affect different groups of people within society. This can include underrepresented groups and groups based on location and hardship. For example, a company may choose to implement social responsibility management methods focused on social issues by donating leftover food or clothing to the homeless.An organization can also help support social issues by hosting people in the community and amplifying their voices. For example, a retail store may include a display for small creators of clothing or products.

Environmental

Environmental responsibility management is the process of ensuring the organization does no harm to the environment with its processes, with the eventual goal of reversing damage and improving the ecosystem. This can include steps like using recycled materials during manufacturing, offsetting the carbon footprint of shipping or donating to organizations that support the environment.

Ethical

A company's ethical responsibility refers to its efforts that all team members and customers receive respect and fair treatment. This includes suppliers, investors and leadership personnel within the company as well.This may include offering a wage to match inflation, providing adequate healthcare coverage, investing in mental health resources for team members and adhering to high standards for ingredients, materials and transparency.

Economic

Financial or economic social responsibility is the organization's focus on using funds and resources in a way that positively impacts the community. This can include sourcing materials and ingredients from local vendors, rather than importing cheaper options.Brands can also engage in economic social responsibility by promoting local businesses or giving back to the community. For example, a cafe may source its beans from a local roaster and advertise for the company, or an organization may offer college scholarships to local teens.

Areas of Social Responsibility

1. Responsibility towards Employees

- Provide fair wages and salaries.
- Ensure safe and healthy working conditions.
- Offer training and development opportunities.
- Promote job security and welfare measures.

2. Responsibility towards Customers

- Provide quality products and services.

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- Charge fair prices.
- Avoid misleading advertisements.
- Ensure customer satisfaction and safety.

3. Responsibility towards Society

- Follow ethical business practices.
- Contribute to community development.
- Avoid pollution and protect the environment.
- Support social welfare activities.

4. Responsibility towards Government

- Pay taxes honestly and on time.
- Follow laws and regulations.
- Support government policies and development programs.
- Maintain transparency in business operations.

5. Responsibility towards Investors

- Provide fair return on investment.
- Ensure proper use of funds.
- Maintain financial transparency.
- Protect shareholders' interests.

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Importance of Social Responsibility

- Builds goodwill and reputation of the business.
- Increases customer trust and loyalty.
- Improves employee satisfaction and motivation.
- Ensures long-term business sustainability.
- Reduces government interference and legal issues.

UNIT – I: INTRODUCTION TO MANAGEMENT

Highlights

- Management – Concept, Nature & Functions
- Management as Science and Art
- F.W. Taylor's Scientific Management
- Henri Fayol's 14 Principles
- Elton Mayo's Human Relations Theory
- Organizational Structures & Social Responsibility of Management

Case Study: Effective Management at ABC Manufacturing Ltd.

ABC Manufacturing Ltd. is a medium-sized company that manufactures electrical appliances. As the business expanded, the company began facing problems such as poor coordination among departments, unclear job responsibilities, delays in decision-making, and reduced employee productivity. Employees were unsure about their roles, and communication between managers and workers was ineffective. To overcome these challenges, the management introduced proper planning, established a clear organizational structure, assigned responsibilities according to employee skills, and improved communication through regular meetings. Performance was continuously monitored to ensure organizational objectives were achieved. As a result, coordination improved, productivity increased, and the company achieved its business goals more efficiently. This case highlights the importance of planning, organizing, staffing, directing, and controlling in effective management.

Questions

1. What management problems were faced by ABC Manufacturing Ltd.?
2. Which functions of management helped the company improve its performance?
3. What lessons can managers learn from this case regarding effective management?

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TEXT BOOKS:

1. Frederick S. Hillier, Mark S. Hillier. Introduction to Management Science, October 26, 2023.
2. A.R Aryasri, Management Science, TMH, 2019

S.No.	CO	Questions	BT
		Unit I: Introduction to Management	
		PART- A (TWO MARKS QUESTIONS)	
1	1	Define Management.	**L1**
2	1	State any two characteristics of Management.	**L1**
3	1	List any four functions of Management.	**L1**
4	1	What is meant by Management as a Science?	**L1**
5	1	Why is Management called an Art?	**L2**
6	1	Who is known as the Father of Scientific Management?	**L1**
7	1	State any two principles of F.W. Taylor.	**L1**
8	1	Who is known as the Father of Administrative Management?	**L1**
9	1	State any two principles of Henri Fayol.	**L1**
10	1	What is Human Relations Theory?	**L1**
11	1	Define Organizational Design.	**L1**
12	1	What is Line Organization?	**L1**
13	1	What is Matrix Organization?	**L2**
14	1	Define Social Responsibility of Management.	**L1**
15	1	Differentiate between Efficiency and Effectiveness.	**L2**
S.No.	**CO**	**Questions**	**BT**
		PART-B (TEN MARKS QUESTIONS)	
1	1	Define Management. Explain the concept, nature, and functions of Management with suitable examples.	**L2**
2	1	Explain Management as a Science, an Art, and both Science & Art with suitable examples.	**L4**
3	1	Explain F.W. Taylor's Scientific Management Theory and its principles.	**L2**
4	1	Explain Elton Mayo's Human Relations Theory and discuss its principles and importance.	**L2**
5	1	Explain the different Organizational Structures (Line, Line & Staff, Functional, Matrix, Project, and Committee Organizations) with neat diagrams.	**L4**
6	1	Discuss the concept of Organizational Design and explain the different forms of organizational structures.	**L2**
7	1	Explain the Social Responsibilities of Management towards Employees, Customers, Society, Government, and Investors.	**L2**
8	1	Differentiate between Taylor's Scientific Management Theory and Henri Fayol's Administrative Management Theory.	**L4**
9	1	Explain the Levels of Management with a neat diagram and suitable examples.	**L2**

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UNIT-2

OPERATIONS MANAGEMENT

MANAGEMENT SCIENCE

"Quality is never an accident; it is always the result of intelligent effort."

— John Ruskin

UNIT OVERVIEW

This unit introduces the basic concepts of **Operations Management**, which focuses on the efficient production of goods and services. It covers plant layouts, production methods, work study, statistical quality control, material and inventory management, marketing management, marketing mix, channels of distribution, advertisement, sales promotion, and marketing strategies based on the product life cycle. These concepts help organizations improve productivity, quality, customer satisfaction, and profitability.

OBJECTIVES OF THE UNIT:

1. Understand the concept and importance of Operations Management.
2. Explain different types of plant layouts and production methods.
3. Learn the concept of work study and quality control.
4. Understand material and inventory management techniques.
5. Explain EOQ and ABC Analysis.
6. Understand the concept, nature, and functions of marketing.
7. Learn the elements of the marketing mix.
8. Explain channels of distribution, advertisement, sales promotion, and product life cycle strategies.

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LEARNING OUTCOMES

After completing this unit, students will be able to:

- Explain the principles of Operations Management.
- Identify different plant layouts and production methods.
- Understand work study and statistical quality control.
- Apply inventory management techniques like EOQ and ABC Analysis.
- Explain the concept and functions of marketing.
- Describe the elements of the marketing mix.
- Identify different distribution channels.
- Explain advertisement, sales promotion, and product life cycle strategies.

IMPORTANCE OF STUDYING THE UNIT

This unit helps students understand how organizations manage production, materials, inventory, and marketing activities efficiently. It improves knowledge of quality management, cost control, inventory planning, and marketing strategies. These concepts help in increasing productivity, customer satisfaction, and business growth.

Key Concepts

Operations Management, Plant Layout, Production Methods, Job Production, Batch Production, Mass Production, Work Study, Statistical Quality Control (SQC), Material Management, Inventory Management, EOQ, ABC Analysis, Marketing Management, Marketing Mix (4Ps), Channels of Distribution, Advertisement, Sales Promotion, Product Life Cycle (PLC), Marketing Strategies

Introduction to Operations Management:-

Operations management is a production management function that makes the production of manufactured goods more efficient through the optimization of business processes. The main goals of operations management are profitability and total quality.

Operations Management Principles – According to Randall Schaeffer

According to Randall Schaeffer (CPIM) – Renowned manufacturing & operations management expert, there are ten operation management principles that must be followed to help manufacturers avoid common problems and thrive. The principles include:

Principle 1: Reality

Operations and management must focus on the larger problem as opposed to small techniques that are part of a problem. According to Schaeffer, there is no single tool that offers a universal solution.

Principle 2: Humility

Managers must understand and respect limitations, avoiding trial and error at all costs. Doing this saves time and money and has an overall positive outcome in the long term

Principle 3: Organization

Since everything is interconnected in a production process, all elements must be predictable and consistent. Operational management can't be profitable without production planning and control that fosters predictability and consistency.

Principle 4: Accountability

Every person who manages operations must be accountable. Managers should have checks and balances to guarantee accountability.

Principle 5: Change

Change is welcome in operational issues. New solutions must be welcome for continuous operational improvements to be possible. It is helpful to embrace modern change management methodologies including Agile, Six Sigma, Lean, and Kaizen.IT operations management, the subset of manufacturing that manages production systems, is a critical business function. Change management methodologies are very useful for making decisions on how to upgrade, replace, or augment existing production management systems.

Principle 6: Quality Control

Manufacturing operations must have quality controls in place. Without quality management, the quality of the end product/service can't be guaranteed. Total quality management is a holistic process and involves excellence in many areas including:

Procurement

Logistics

Material management

Warehousing- It involves carefully monitoring the raw materials as they move through the entire logistics and supply chain and become finished goods.

Principle 7: Success

For success to be achievable in operations, the end customer must be happy with the end product/service they receive. They should also be willing to come back for more.

Principle 8: Know Your Competition

To optimize operations, it is important to study competitors, understand their practices, customers, products, and competitive advantage.

Principle 9: Causality

Operational problems have tell-tale signs before they occur. To streamline operations, managers must identify underlying problems and eliminate them. If you already have an operations management system, like an enterprise planning system (ERP), manufacturing execution system (MES), or material requirements planning system (MRP) then you can set up standard metrics and reports that will help you to identify problems like bottlenecks and other inefficiencies.

Principle 10: Consumer Collaboration

Lastly, managers need to understand customers in-depth by collecting insights from them on how they can improve products/services.

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Plant Layout

Plant layout is the strategic arrangement of physical facilities, machinery, and manpower within a factory to ensure the smooth, efficient, and cost-effective flow of production. Selecting the right layout minimizes material handling, optimizes floor space, and maximizes overall productivity

Four basic types of plant layouts are discussed in length below with examples:

1. Process Layout
2. Product Layout
3. Group Layout
4. Fixed Position Layout
5. Hybrid Layouts.

1. Process Layout: In a process layout, similar equipment and operations are grouped together. The layout is flexible and suitable for industries with low-volume production or customized products. For example, a job shop or a printing press where different printing machines are organized based on the specific printing processes required.

2. Product Layout: Also known as an assembly line layout, this concept arranges workstations in a linear sequence according to the production process. It is efficient for high-volume production of standardized products. An automobile assembly line is a classic example of a product layout, where each workstation is dedicated to a specific task in the assembly process.

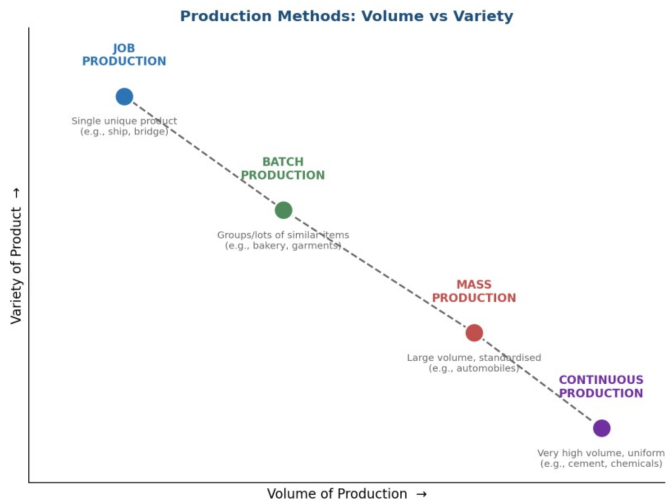
3. Cellular Layout: A cellular layout groups machines and workstations in cells or groups based on the type of products or processes. It allows for efficient flow and reduced material handling. Cell manufacturing in the textile industry, where machines are arranged based on product families, is an example of a cellular layout.

4. Fixed Position Layout: This layout is suitable for large products or projects that cannot be moved easily. The resources and equipment are brought to the site where the product is being built. Shipbuilding or construction projects are typical examples of fixed position layouts.

5. Hybrid Layout: Hybrid layouts combine elements of different layout concepts to meet specific operational requirements. They are often used in complex manufacturing environments where different products and processes coexist. For example, a computer manufacturing facility may have a combination of process layout for component assembly and a product layout for final assembly.

Methods of Production:-

Meaning: the way in which manufacturing operations are organised, depending mainly on the volume of output and variety of products required



Production Methods Positioned by Volume and Variety

- **Job Production** — manufacture of a single, unique product to a customer's specific requirement (e.g., a custom-built ship, a wedding dress, a bridge). High variety, low volume, general-purpose machines, skilled labour
- **Batch Production** — identical products are made in limited quantities (batches/lots), with different batches of different products made using the same facilities at different times (e.g., bakery items, pharmaceuticals, garments)
- **Mass Production** — continuous manufacture of a large quantity of a standardised product on a flow/assembly line (e.g., automobiles, consumer electronics). Low variety, very high volume, specialised machines

Comparison of Production Methods

Basis	Job Production	Batch Production	Mass Production
Volume	Very low (often one-off)	Medium (in lots)	Very high (continuous)
Variety	Very high (custom)	Moderate	Low (standardised)
Machines	General purpose	General/some special purpose	Special purpose, automated
Labour	Highly skilled	Semi-skilled	Low/semi-skilled,

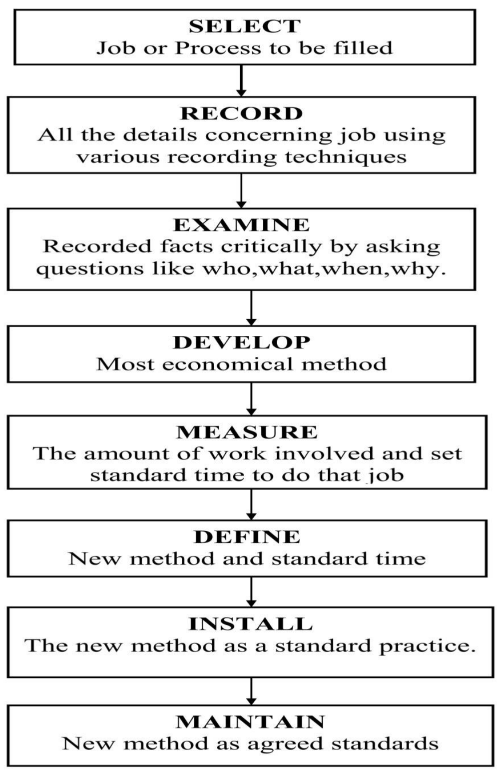
MANAGEMENT SCIENCE

Basis	Job Production	Batch Production	Mass Production
			specialised
Unit Cost	High	Moderate	Low

Work Study :-

Work study is a discipline were it helps in performing g the better ways of doing the job it is defines as the combination of both method study and work measurement it is useful in eliminating un necessary cost and making the work flexible.

Work Study is a discipline which is defined to identify what work or job to be done by the specific individual at some period of time



Method Study

Method study is the systematic recording and critical examination of ways of doing things in order to make improvements.

Objectives:

1.Improve processes and procedures.

2.Simplify the job to reduce unnecessary movements.

3.Optimize the use of materials, machines, and labor.

4.Increase productivity and efficiency.

Steps in Method Study:

1. SELECT Job or Process to be studied;

2. RECORD all the details concerning job using various recording techniques;

3. EXAMINE recorded facts critically by asking questions like who, what, when, why;

4. DEVELOP most economical method;

5. MEASURE the amount of work involved and set standard time to do that job;

6. DEFINE new method and standard time;

7. INSTALL the new method as a standard practice;

8. MAINTAIN new method as agreed standard.

WORK MEASUREMENT

Work measurement is the application of techniques designed to establish the time for a qualified worker to carry out a specific job at a defined level of performance.

Steps in work measurement:

The steps involved in work measurement are –

1. SELECT - Selecting the work to be studied.
2. RECORD – Recording all the relevant data relating to the circumstances in which the work is being done, the methods and the elements of activity in them.
3. EXAMINE – The recorded data and the detailed breakdown critically to ensure that the most effective motion and method are being used and that unproductive and foreign elements are separated from productive elements
4. MEASURE – The quantity of work involved in each element in terms of time, using the appropriate work measurement technique.
5. COMPILE – To compile the standard time for the operation, which in case of stop watch time study will include time allowances to cover relaxations, personal needs etc.
6. DEFINE – To define precisely the series of activities and method of operation for which the time has been compiled and issue the time as standards for the activities and methods specified.

WORK MEASUREMENT TECHNIQUES

Work measurement can be carried out by the following techniques.

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1) Work sampling

2) Analytical estimating

3) Predetermined time standards (PTS)

4) Standard rate

5) Stop watch time study

SQC- Statistical Quality Control

Statistical Quality Control is one of the most important topics in Operations Management and Production Systems. Statistical Quality Control can be defined as the use of statistical methods for controlling and improving the quality of any product or process. In today's world, small errors can have a huge impact on your business, thus statistical quality control becomes very significant in today's scenario.

Define SQC

Statistical Quality Control (SQC) is defined as the use of statistical methods for monitoring, maintaining, and improving the quality of products and processes

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Statistical Quality Control (SQC)

It helps organizations:

- Maintain consistent product quality.
- Detect defects early.
- Reduce production costs.
- Improve customer satisfaction.
- Minimize wastage and rework.

Objectives of SQC

- To maintain product quality.
- To identify process variations.
- To reduce defective products.
- To improve production efficiency.
- To reduce inspection costs.
- To satisfy customer requirements.

Techniques of SQC

- **Control Charts —** graphical tools that plot a sample statistic over time against a Central Line (CL), Upper Control Limit (UCL) and Lower Control Limit (LCL) to detect whether a process is 'in control'
- **Acceptance Sampling —** inspecting a random sample from a lot of finished goods and deciding whether to accept or reject the entire lot, based on the number of defectives found

Types of Control Charts

- Variable Charts (X-bar chart, R-chart) - used for measurable characteristics like length, weight, diameter
- Attribute Charts (p-chart, c-chart) - used for characteristics that are simply classified as defective/non-defective

Benefits of SQC

- Detects process variation early, before large quantities of defectives are produced
- Distinguishes between chance (random) causes and assignable (correctable) causes of variation
- Reduces inspection cost compared to 100% checking of output

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Material Management:-

Definition:- Material management deals with controlling and regulating the flow of materials in relation to changes in variables like demand, prices, availability, quality, delivery schedules etc.

Objectives of Material Management

1. Ensure uninterrupted supply of materials to production without stock-outs.
2. Minimize investment in inventory to reduce unnecessary capital blockage.
3. Reduce purchasing costs by procuring materials economically.
4. Reduce storage and handling costs through efficient inventory management.
5. Ensure the quality of purchased materials to maintain product standards.
6. Develop reliable and cost-effective supplier relationships for timely and efficient procurement.

Function of Materials Management:

1. Materials planning and programming
2. Purchasing materials inspection of materials
3. Inspection of Materials
4. Classification, codification and standardization in stores

5. Storage of materials
6. Issuing of materials
7. Maintence of proper inventory records
8. Materials receiving

Inventory Management

Inventory Management is the process of planning, ordering, storing, controlling, and using inventory efficiently to ensure that the right quantity of materials is available at the right time and at the lowest possible cost. It helps an organization avoid shortages, reduce excess stock, and improve production efficiency.

Functions of Inventory Management

1. **Ensures Continuous Production**
   - Maintains sufficient stock to avoid production interruptions.
2. **Maintains Optimum Inventory Level**
   - Prevents both overstocking and stock shortages.
3. **Reduces Inventory Costs**
   - Minimizes ordering, carrying, and storage costs.
4. **Purchasing and Procurement**
   - Ensures timely purchase of quality materials at reasonable prices.
5. **Storage and Warehousing**
   - Stores materials safely and systematically.
6. **Stock Control**
   - Monitors inventory levels and prevents wastage.
7. **Maintains Inventory Records**
   - Keeps accurate records of receipts, issues, and stock balance.
8. **Improves Customer Service**
   - Ensures finished goods are available to meet customer demand.

Types of Inventory :-

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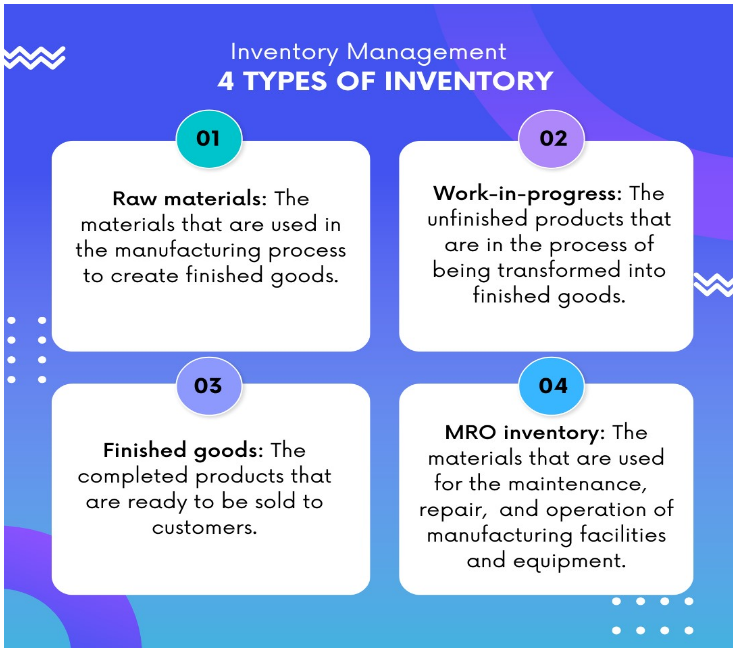

Techniques of Inventory Control

Inventory control techniques are strategies and methods used by businesses to manage their inventory levels effectively, ensuring that they have the right amount of stock on hand at the right time. Here are the inventory control techniques that businesses commonly employ to optimize their inventory management,

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1. ABC Analysis (Always Better Control)

ABC Analysis is a technique used to manage inventory by dividing items into three categories (A, B, and C) based on their importance and value. 'A' items are the most valuable and require close attention, 'B' items are less critical but still important, and 'C' items are the least valuable. This method helps businesses prioritize their efforts and resources effectively.

Features

- **Categorization:** Items are classified into categories (A, B, and C) based on their significance to the business.
- **Usage of Pareto Principle:** ABC analysis is often guided by the Pareto Principle, also known as the 80/20 rule, which suggests that roughly 80% of the effects come from 20% of the causes.
- **Criteria for Classification:** Items are classified based on criteria such as annual sales revenue, inventory value, contribution margin, or frequency of usage. The specific criteria used may vary depending on the objectives and context of the analysis.

ABC analysis classes

	Importance	Percentage of total inventory	Impact on revenue or profits
Class A	Vital	Low	High
Class B	Important	Medium	Medium
Class C	Less important	High	Low

Advantages

- **Resource Optimization:** It allows companies to focus more resources on the most critical items, ensuring that the most valuable products are always available and managed efficiently.
- **Cost Efficiency:** By identifying less critical items, businesses can reduce costs related to overstocking and storage, optimizing overall inventory expenses.

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Disadvantages

- **Complex Setup:** Setting up an ABC Analysis can be complicated, requiring detailed analysis to accurately categorize items, which might be challenging and time-consuming.
- **Potential Neglect:** Lower-value items might be overlooked, which can be problematic if these items are essential for certain operations or customer demands, potentially disrupting business processes.

2. Economic Order Quantity (EOQ)

Economic Order Quantity (EOQ) is a formula used by businesses to determine the ideal order quantity that minimizes the total costs of inventory. This includes costs like ordering, holding, and shortage costs. EOQ helps ensure that a company orders the optimal amount of stock, balancing various cost factors.

Features

- **Optimal Order Quantity:** EOQ calculates the ideal order quantity that minimizes total inventory costs, considering both ordering costs and holding (or carrying) costs.
- **Trade-off Analysis:** It balances the costs associated with holding inventory (storage, insurance, obsolescence) and the costs of ordering (processing, transportation, setup).

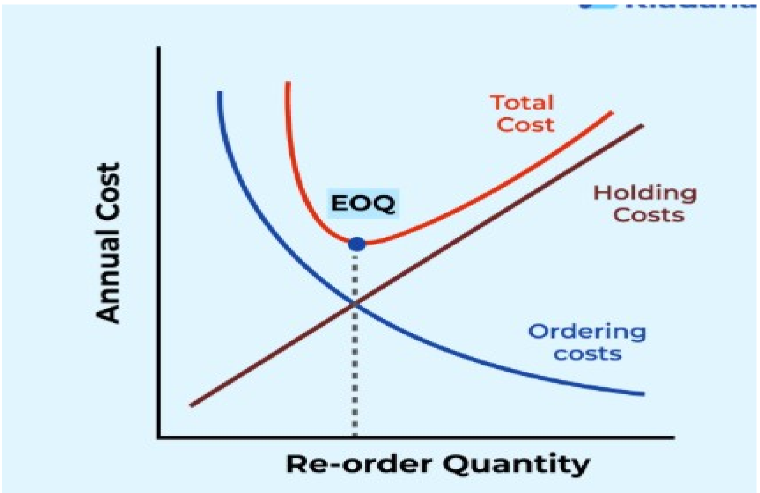
- **Deterministic Demand:** EOQ assumes constant and known demand over time, making it suitable for items with stable and predictable demand patterns.

Advantages

- **Cost Efficiency:** EOQ helps minimize total inventory costs by optimizing order quantities, reducing excess inventory holding costs and ordering costs.
- **Simplicity:** The EOQ formula is easy to understand and apply, making it accessible to businesses of all sizes without requiring advanced mathematical knowledge.
- **Inventory Optimization:** By determining the optimal order quantity, EOQ ensures that inventory levels are neither too high (which ties up capital and incurs holding costs) nor too low (which risks stockouts and potentially higher ordering costs).

Disadvantages

- **Assumptions:** EOQ relies on several assumptions that may not always hold true in real-world situations, such as constant demand, stable costs, and no quantity discounts.
- **Complexity in Application:** While the EOQ formula is simple, its application may be more complex in practice, especially when dealing with multiple products, variable demand, or fluctuating costs.
- **Limited Scope:** EOQ is most effective for items with stable demand and known costs. It may not be suitable for products with uncertain demand, seasonal variations, or rapidly changing market conditions.



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<u>Marketing Management:-</u>

Marketing management involves developing and implementing strategic marketing programs, processes, and activities that align with wider business objectives, while utilizing customer insights, tracking metrics, and optimizing internal processes to achieve success

Meaning

Marketing refers to all activities involved in planning, pricing, promoting, and distributing goods and services to satisfy customer needs while achieving organizational objectives.

It is a bridge between producers and consumers, ensuring that products reach customers efficiently and profitably.

Definition:-

According to "Philip Kotler" "Marketing is the science and art of exploring, creating, and delivering value to satisfy the needs of a target market at a profit."

"Marketing is the process of identifying customer needs and wants, creating and delivering products or services to satisfy those needs, and exchanging them for value in order to achieve customer satisfaction and organizational goals."

Nature of Marketing:-

1. **Managerial Function**: Marketing is all about successfully managing the product, place, price and promotion of business to generate revenue.
2. **Human Activity**: It satisfies the never-ending needs and desires of human beings.
3. **Economic Function**: The crucial second marketing objective is to earn a profit.
4. **Both Art and Science**: Creating demand for the product among consumers is an art and understanding human behaviour, and psychology is a science.
5. **Customer-Centric**: **Marketing strategies** are framed with the motive of customer acquisition.
6. **Consumer-Oriented**: It practices market research and surveys to know about consumer's taste and expectations.
7. **Goal-Oriented**: It aims at accomplishing the seller's profitability goals and buyer's purchasing goals.
8. **Interactive Activity**: Marketing is all about exchanging ideas and information among buyers and sellers.
9. **Dynamic Process**: Marketing practice keeps on changing from time to time to improve its effectiveness.

10. **Creates Utility**: It establishes utility to the consumer through four different means; form (kind of product or service), time (whenever needed), place (availability) and possession (ownership).

Functions of Marketing

1. Marketing Research

Collecting and analyzing market information to understand customer needs and market trends. **Example:** Conducting customer surveys before introducing a new product.

2. Product Planning and Development

Designing products according to customer preferences and market demand.

3. Buying and Assembling

Purchasing raw materials and assembling products for production.

4. Selling

Transferring ownership of goods to customers through personal selling or online sales.

5. Transportation

Moving goods from manufacturers to wholesalers, retailers, and consumers.

6. Storage and Warehousing

Storing products safely until they are required by customers.

7. Standardization and Grading

Ensuring products meet quality standards and classifying them according to quality.

8. Packaging

Protecting products and making them attractive to customers.

9. Pricing

Determining the selling price by considering production cost, competition, and customer demand.

10. Promotion

Informing customers about products through advertising, sales promotion, public relations, and personal selling.

11. Financing

Providing financial support for production, distribution, and marketing activities.

12. Risk Bearing

Managing risks such as damage, theft, price fluctuations, and changes in customer demand.

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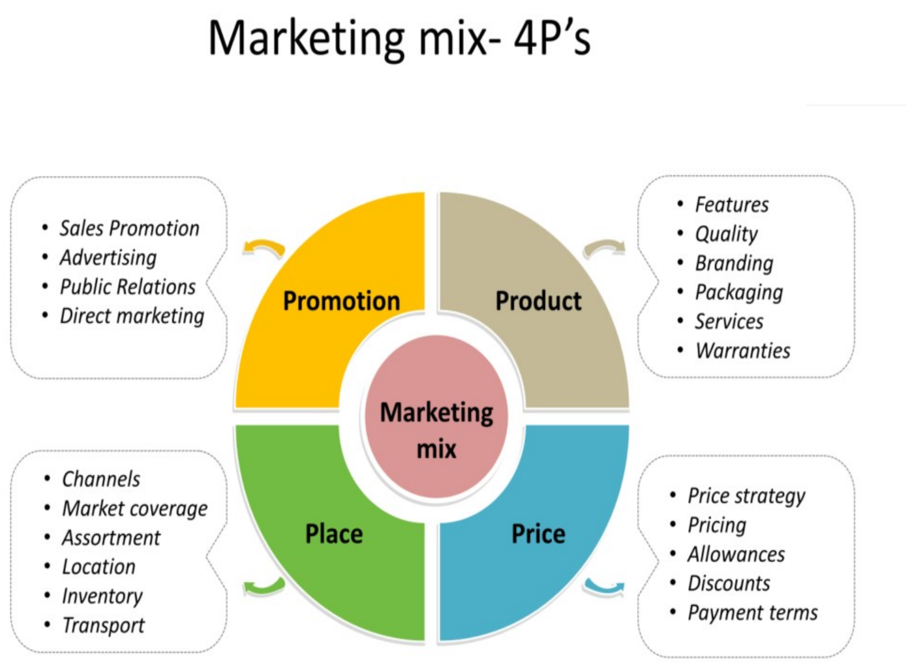
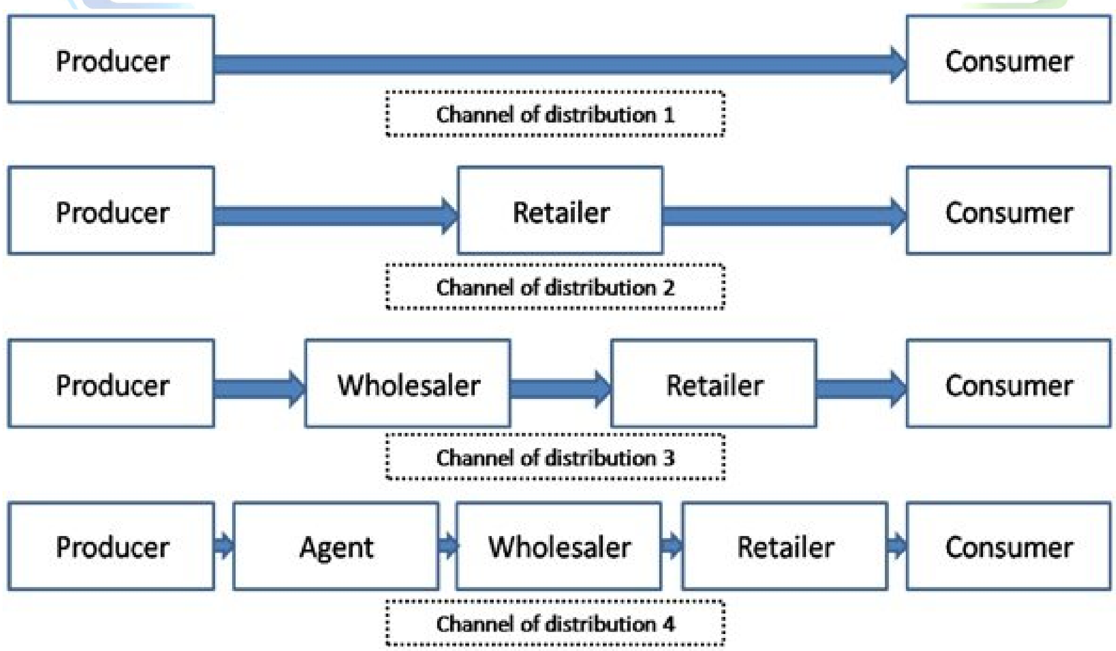
Marketing mix



Channels of Distribution:-



- Zero-level (Direct) Channel — producer sells directly to the consumer with no intermediary (e.g., factory outlets, online direct sales)

- One-level Channel — producer -> retailer -> consumer
- Two-level Channel — producer -> wholesaler -> retailer -> consumer (the most common channel for FMCG products)
- Three-level Channel — producer -> agent -> wholesaler -> retailer -> consumer, used when the market is widely spread out

Advertisement:-

Advertisement is a **paid form of non-personal communication** used by a company to inform, persuade, and remind customers about its products or services through various media such as television, newspapers, radio, magazines, websites, and social media.

Definitions by Experts

- **Philip Kotler:** "Advertising is any paid form of non-personal presentation and promotion of ideas, goods, or services by an identified sponsor."
- **American Marketing Association (AMA):** "Advertising is any paid form of non-personal communication about an organization, product, service, or idea by an identified sponsor."

Objectives of Advertisement

1. **To Inform**
    - Introduce new products.
    - Explain product features and benefits.
2. **To Persuade**
    - Convince customers to purchase.
    - Build brand preference.
3. **To Remind**
    - Keep the product in customers' minds.
    - Encourage repeat purchases.
4. **To Build Brand Image**
    - Improve company reputation.
    - Increase customer trust.
5. **To Increase Sales**
    - Attract new customers.
    - Increase market share.

Functions of Advertisement

- Creates product awareness.

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- Educates customers.
- Creates demand.
- Supports salespeople.
- Faces competition.
- Builds customer loyalty.
- Improves company goodwill.

Types of Advertisement:-

- **Print advertising**: Print ads see ink printed on paper. Newspapers, magazines, brochures, posters, flyers and direct mail are all examples of print advertising.
- **Broadcast advertising**: In years gone by the term 'broadcast advertising' covered radio and TV, though these days the line between these formerly analogue channels and digital streaming services is blurrier than ever.
- **Outdoor advertising**: Bus stops, billboards, blimps, banner planes, other things that don't start with 'B' – outdoor advertising treats the whole world as an advertising stage.
- **Product integration**: Perhaps the most subtle form of advertising, product integration sees products and brands included (and implicitly promoted) in film, TV, Instagram, YouTube and other forms of media.
- **Digital advertising**: Over the last couple of decades digital advertising has overtaken all the other forms listed above. In fact, it really deserves its own section

Sales Promotion:-

Sales Promotion consists of **short-term incentives** offered to encourage customers to purchase products immediately.

Definition by Philip Kotler

"Sales Promotion consists of short-term incentive tools designed to stimulate quicker or greater purchase of particular products or services."

Characteristics of Sales Promotion

1. Short-Term in Nature

Sales promotions are conducted for a limited period to boost sales immediately, unlike advertising which builds long-term brand image.

2. Supplementary to Advertising and Personal Selling

Sales promotion supports other promotional activities by reinforcing advertising messages and aiding personal selling efforts.

3. Planned Activity: The fact that sales promotions can be effective throughout the life of a brand shows their strategic role. Clearly, sales promotion activities should therefore be planned and not just in an ad hoc manner.

4. Supporting Activity: Sales promotions are generally used to complement the other promotion methods.

5. Versatile: Sales promotions are extremely versatile. The different forms of sales promotions are capable of being used with various groups and designed to achieve different effects. Given this versatility, sales promotions can be useful throughout the product life cycle.

6. Incentive-Oriented

It offers additional value such as discounts, coupons, gifts, or extra quantity to motivate buyers.

7. Direct Action Tool It encourages immediate response from consumers, distributors, or retailers.

8. Flexible and Situational Sales promotion tools can be easily modified based on market conditions, competition, or seasonal demand.

9. Target-Specific Promotions can be designed for different target groups:

a. Consumer promotion b. Trade promotion c. Sales force promotion

10. Measurable Results

The impact of sales promotion can be easily evaluated in terms of increased sales, market share, or customer footfall.

11. **Non-Routine Activity** Sales promotions are occasional and not used continuously to avoid reducing brand value.

<u>**Methods of Sales Promotion:-**</u>

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Marketing Strategies Based on Product Life Cycle (PLC)

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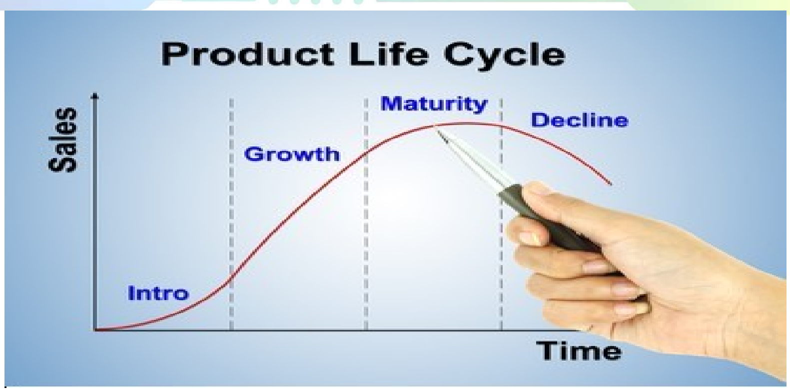
What is Product Life Cycle?

The **Product Life Cycle (PLC)** refers to the different stages through which a product passes from its introduction into the market until its withdrawal.

Stages of Product Life Cycle



- **Introduction:** The product hits the market. Sales are slow, and costs—especially for marketing and awareness—are high.
- **Growth:** Demand and popularity increase rapidly. Companies scale production and focus on expanding market share while fending off emerging competitors.

- **Maturity:** The market becomes saturated. Sales peak but growth slows down as competition peaks. The focus shifts to customer retention, cost optimization, and minor product tweaks.
- **Decline:** Sales and profits fall due to market shifts or new technologies. Companies must decide whether to discontinue, overhaul, or sell the product.

UNIT – II: OPERATIONS MANAGEMENT

Highlights

- Plant Layout
- Methods of Production
- Work Study
- Statistical Quality Control (SQC)
- Material Management
- Inventory Management
- EOQ & ABC Analysis
- Marketing Mix (4Ps)
- Product Life Cycle (PLC)

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Case Study: Improving Operations at XYZ Furniture Industries

XYZ Furniture Industries manufactures office furniture for both domestic and commercial customers. The company experienced frequent production delays, high inventory costs, machine idle time, and customer complaints due to late deliveries. Management identified that poor production planning and inefficient inventory management were the major causes of these problems. To improve operations, the company introduced better production scheduling, implemented inventory control techniques, improved quality inspection procedures, and carried out regular machine maintenance. Employees were also trained to follow standard operating procedures. These improvements reduced production costs, minimized waste, enhanced product quality, and increased customer satisfaction. This case demonstrates how effective operations management helps organizations improve productivity and operational efficiency.

Questions

1. What operational problems affected XYZ Furniture Industries?
2. How did production planning and inventory management improve operational efficiency?
3. What is the importance of quality control in operations management based on this case?

TEXT BOOKS:

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1. Frederick S. Hillier, Mark S. Hillier. Introduction to Management Science, October 26, 2023.
2. A.R Aryasri, Management Science, TMH, 2019

S.No.	CO	Questions	BT
Unit II : Operations Management			
PART- A (TWO MARKS QUESTIONS)			
1	CO2	Define Operations Management.	L1
2	CO2	What is Plant Layout?	L1
3	CO2	Define Work Study.	L1
4	CO2	What is Statistical Quality Control (SQC)?	L1
5	CO2	Define Material Management.	L1
6	CO2	What is Inventory Management?	L1
7	CO2	What is EOQ?	L1
8	CO2	What is ABC Analysis?	L1
9	CO2	Define Marketing Management.	L1
10	CO2	What are the 4Ps of Marketing Mix?	L1
11	CO2	Define Advertisement.	L1
12	CO2	What is Product Life Cycle (PLC)?	L1
S.No.	CO	Questions	BT
		PART-B (TEN MARKS QUESTIONS)	
1	CO2	Explain the different types of **Plant Layout** with neat diagrams, advantages and disadvantages.	L2
2	CO2	Explain **Statistical Quality Control (SQC)**, its objectives, techniques, and applications.	L2
3	CO2	Explain the **Concept, Nature, and Functions of Marketing Management** with suitable examples.	L2
4	CO2	Explain **Inventory Management** and discuss **EOQ** and **ABC Analysis** with suitable examples.	L4
5	CO2	Explain **Marketing Strategies based on the Product Life Cycle (PLC)** with a neat diagram.	L2
6	CO2	**(a)** Explain **Job Production**. **(b)** Explain **Batch Production** and **Mass Production** with examples.	L2

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7	CO2	**(a)** Explain **Method Study**. **(b)** Explain **Work Measurement** and its techniques.	L2
8	CO2	**(a)** Explain **Material Management** with its objectives. **(b)** Explain the **Functions of Material Management**.	L2
9	CO2	**(a)** Explain the **Marketing Mix (4Ps)**. **(b)** Explain the **Channels of Distribution** with neat diagrams.	L2
10	CO2	**(a)** Explain **Advertisement** with its objectives and functions. **(b)** Explain **Sales Promotion** with its characteristics.	L2

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UNIT-3

HUMAN RESOURCE MANAGEMENT

(HRM)

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"Take care of your employees, and they'll take care of your business."

— Richard Branson

UNIT OVERVIEW

This unit introduces the basic concepts of **Human Resource Management (HRM)** and its role in managing people within an organization. It covers HRM functions such as job analysis, human resource planning, recruitment, selection, training and development, performance appraisal, placement, employee induction, and wage and salary administration. These concepts help organizations recruit, develop, motivate, and retain skilled employees to achieve organizational goals.

BJECTIVES OF THE UNIT

After studying this unit, students will be able to:

1. Understand the concept of HRM.
2. Explain the functions of HRM.
3. Learn recruitment and selection.
4. Understand training and development.
5. Explain performance appraisal.
6. Learn placement and induction.
7. Understand wage and salary administration.

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LEARNING OUTCOMES

After completing this unit, students will be able to:

- Explain the concept of HRM.
- Describe HRM functions.
- Understand recruitment and selection.
- Explain training and development.
- Apply performance appraisal methods.
- Understand placement and induction.
- Describe wage and salary administration.

IMPORTANCE OF STUDYING THE UNIT

This unit helps students understand how organizations manage their human resources effectively. It provides knowledge about employee recruitment, training, performance evaluation, and compensation. These concepts improve employee productivity, job satisfaction, and organizational performance.

KEY CONCEPTS

Human Resource Management (HRM), Nature of HRM, Managerial Functions, Operative Functions, Job Analysis, Human Resource Planning (HRP), Recruitment, Sources of Recruitment, Selection Process, Training, Development, Training Methods, Performance Appraisal, Performance Appraisal Methods, Placement, Employee Induction, Wage Administration, Salary Administration, Compensation, Employee Development.

HRM — Definiton and Meaning

Human Resource Management (HRM) is the branch of management concerned with the people dimension of an organisaton — acquiring, developing, motivating, and retaining employees so that both the organisaton's goals and the employees' own needs are satisfied.

Definitions:-

Edwin B. Flippo: "HRM is the planning, organising, directing and controlling of the procurement, development, compensation, integration, maintenance and separation of human resources to the end that individual, organisatonal and societal objectves are accomplished."

National Institute of Personnel Management (NIPM), India: HRM is "that part of management concerned with people at work and with their relationships within an enterprise," aiming to bring together and develop an effective organisaton of the men and women who make up the enterprise.

In simple terms, HRM treats employees not merely as a cost to be minimised, but as a valuable **resource** to be planned for, invested in, and developed — much as an organisaton plans for its financial or physical resources.

Nature of Human Resource Management (HRM)

1.People-centred:

HRM focuses on employees as individuals as well as groups at every level of the organization. It aims to understand their needs, improve their well-being, and help them contribute effectively to organizational goals.

2.PervasiveFunction:

HRM is present in every department of an organization. Although there is a separate HR department, every manager performs HR-related activities such as motivating employees, evaluating performance, guiding team members, and resolving workplace issues.

3.ContinuousProcess:

HRM is an ongoing process that continues throughout an employee's career. Activities such as recruitment, selection, training, performance appraisal, promotion, and employee development are carried out continuously rather than as one-time tasks.

4.Development-oriented:

HRM aims to develop employees' knowledge, skills, abilities, and potential through training, career development, and learning opportunities. It helps employees achieve both personal and professional growth.

5. Both a Science and an Art:

HRM is a science because it uses systematic methods, research, and techniques such as job analysis, selection tests, and performance appraisal. It is also an art because it requires interpersonal skills, leadership, communication, motivation, and relationship management to effectively manage people.

Managerial and operative function of HRM:-

The functions of Human Resource Management (HRM) are broadly classified into Managerial Functions and Operative Functions. These functions help organizations recruit, develop, motivate, and retain employees while achieving organizational goals.

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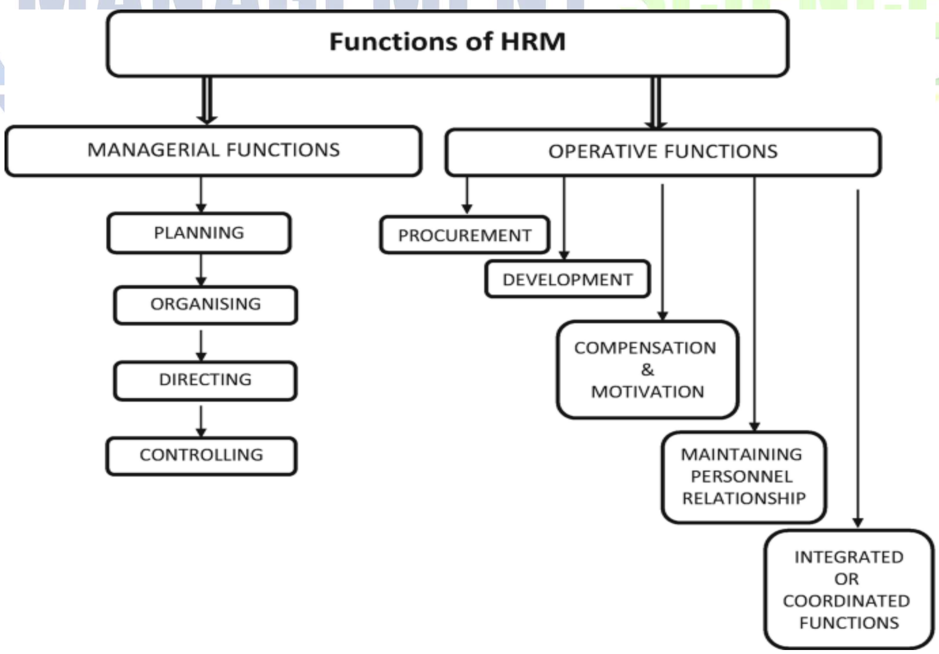

A. Managerial Functions

1. Planning

Planning is the process of deciding the future human resource requirements of the organization. It involves forecasting manpower needs and preparing HR policies and programs.

2. Organising

Organising refers to arranging and allocating human resources, duties, responsibilities, and authority to ensure the smooth functioning of the organization.

3. Directing

Directing involves guiding, supervising, motivating, and leading employees to perform their jobs efficiently and achieve organizational objectives.

4. Controlling

Controlling is the process of monitoring HR activities, evaluating employee performance, comparing actual results with planned objectives, and taking corrective actions when necessary.

B. Operative Functions

1. Procurement

Procurement refers to obtaining the right employees for the organization. It includes human resource planning, recruitment, selection, placement, and induction of employees.

2. Development

Development focuses on improving employees' knowledge, skills, abilities, and competencies through training, education, career development, and performance appraisal.

3. Compensation and Motivation

Compensation involves providing fair wages, salaries, incentives, bonuses, and other benefits to employees. Motivation encourages employees to perform better by recognizing their efforts and satisfying their needs.

4. Maintaining Personnel Relationship

Maintaining personnel relationships involves creating healthy relationships between employees and management. It includes employee welfare, grievance handling, communication, industrial relations, and ensuring a positive work environment.

5. Integrated or Coordinated Functions

Integrated or coordinated functions ensure that all HR activities work together effectively with other departments. These functions promote coordination, employee participation, legal compliance, workplace safety, and overall organizational effectiveness.

Job analysis:-

Job analysis is a systematic process of gathering and evaluating data about a specific position’s tasks, responsibilities, and working environment. It examines the job itself—not the person performing it—to create precise job descriptions and specifications, which guide recruitment, training, compensation, and performance evaluations.

Job Analysis Frame work/out put/Application:-

1. Job Analysis

Job analysis is the process of collecting information about a job, including its duties, responsibilities, skills, and qualifications.

2. Job Description

A job description is a written statement that explains **what the job is** and **what duties and responsibilities** the employee has to perform.

3. Job Specification

A job specification describes the **qualifications, skills, experience, and abilities** required to perform the job successfully.

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Uses of Job Analysis

1. HR Planning Helps determine the number and type of employees needed.

2. Recruitment and Selection Helps recruit and select the right candidates for the job.

3. Training and Development Identifies employee training and skill development needs.

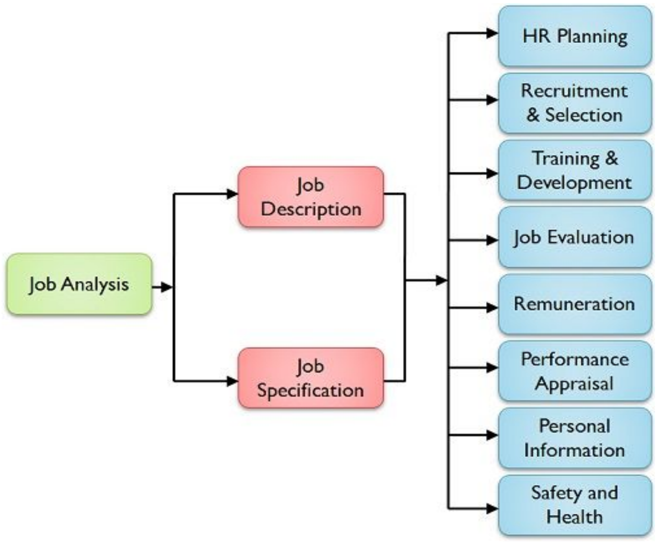
4. Job Evaluation Determines the value of the job for fixing salaries.

5. Remuneration Helps decide fair wages, salaries, and incentives.

6. Performance Appraisal Provides standards to evaluate employee performance.

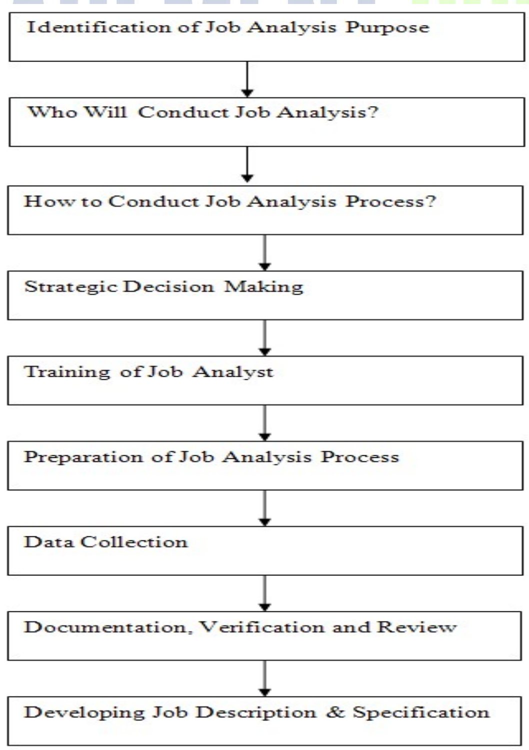
7. Personal Information Helps maintain employee records and information.

8. Safety and Health Helps identify workplace hazards and improve employee safety.



- **Job Description:** a written statement of what the job involves — the duties, responsibilities, reporting relationships and working conditions of the job.
- **Job Specification:** a written statement of what kind of person is needed — the minimum qualifications, skills, experience and personal traits required to perform the job well.

Job Analysis Process:-



- **Identification of Job Analysis Purpose:** Well any process is futile until its purpose is not identified and defined. Therefore, the first step in the process is to determine its need and desired output. Spending human efforts, energy as well as money is useless until HR managers don't know why data is to be collected and what is to be done with it.

- **Who Will Conduct Job Analysis:** The second most important step in the process of job analysis is to decide who will conduct it. Some companies prefer getting it done by their own HR department while some hire job analysis consultants. Job analysis consultants may prove to be extremely helpful as they offer unbiased advice, guidelines and methods. They don't have any personal likes and dislikes when it comes to analyze a job.
- **How to Conduct the Process:** Deciding the way in which job analysis process needs to be conducted is surely the next step. A planned approach about how to carry the whole process is required in order to investigate a specific job.
- **Strategic Decision Making:** Now is the time to make strategic decision. It's about deciding the extent of employee involvement in the process, the level of details to be collected and recorded, sources from where data is to be collected, data collection methods, the processing of information and segregation of collected data.
- **Training of Job Analyst:** Next is to train the job analyst about how to conduct the process and use the selected methods for collection and recoding of job data.
- **Preparation of Job Analysis Process:** Communicating it within the organization is the next step. HR managers need to communicate the whole thing properly so that employees offer their full support to the job analyst. The stage also involves preparation of documents, questionnaires, interviews and feedback forms.
- **Data Collection:** Next is to collect job-related data including educational qualifications of employees, skills and abilities required to perform the job, working conditions, job activities, reporting hierarchy, required human traits, job activities, duties and responsibilities involved and employee behaviour.
- **Documentation, Verification and Review:** Proper documentation is done to verify the authenticity of collected data and then review it. This is the final information that is used to describe a specific job.
- **Developing Job Description and Job Specification:** Now is the time to segregate the collected data in to useful information. Job Description describes the roles, activities, duties and responsibilities of the job while job specification is a statement of educational qualification, experience, personal traits and skills required to perform the job.

HUMAN RESOURCE PLANNING METHODS OF HRP

Methods of HRP:-

1. Quantitative Methods

These methods use statistical and mathematical techniques to forecast manpower needs.

- **Trend Analysis** – Predicts future manpower needs based on past employee data.
- **Ratio Analysis** – Estimates employees required using ratios (e.g., employees to production).
- **Workload Analysis** – Calculates manpower based on the amount of work to be completed.
- **Delphi Technique** – Collects expert opinions to forecast future human resource requirements.

2. Qualitative Methods

These methods are based on judgment, experience, and opinions rather than numerical data.

- **Managerial Judgment** – Managers estimate the number of employees required.
- **Expert Opinion** – HR specialists or consultants provide manpower forecasts.
- **Nominal Group Technique (NGT)** – A group of experts discusses and decides future manpower needs.

RECRUITMENT

It is the process of searching for, attracting, and encouraging qualified candidates to apply for jobs in an organization.

It is the first step in building human capital and ensuring the right person is placed in the right job at the right time.

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Definition:-

Edwin B. Flippo: Recruitment is the process of searching for prospective employees and stimulating them to apply for jobs in the organization.

It is a positive process because it aims at attracting more applicants.

Objectives of Recruitment

- To attract qualified candidates
- To create a pool of talent
- To reduce recruitment cost and time
- To increase organizational effectiveness
- To meet present and future manpower needs

METHODS OF RECRUITMENT

1 Internal Methods of Recruitment

(Recruiting from within the organization)

1. Promotion Upgrading an existing employee to a higher position with more responsibility and salary.

✔ Motivates employees

✔ Saves time and cost

2. Transfer Shifting an employee from one department or location to another without major change in rank.

3. Internal Job Posting Vacancies are announced on notice boards, emails, or company portals.

4. Employee Referrals Current employees recommend suitable candidates.

5. Re-employment of Ex-Employees Former employees are rehired if they left on good terms.

2 .External Methods of Recruitment

(Recruiting from outside the organization)

1. Direct Recruitment Walk-in interviews or gate hiring.
2. Campus Recruitment Hiring fresh graduates from colleges and universities.
3. Advertisement Through newspapers, magazines, TV, or online job portals.
4. Employment Exchanges Government employment offices help match candidates with jobs.
5. **Recruitment Agencies** Private agencies help in hiring specialized talent.
6. E-Recruitment Online platforms such as company websites and job portals.
7. Social Media Recruitment Using platforms like LinkedIn and professional networks.

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8. Labour Contractors Common in construction and manufacturing industries.

Recruitment Process

1. Manpower Planning
2. Job Analysis
3. Job Description & Job Specification Job Description & Job Specification
4. Choosing Recruitment Sources ng Recruitment Sources
5. Advertising the Job
6. Receiving Applications
7. Screening of Applications

SELECTION:-

Selection is the process of choosing the most suitable candidate from the pool of applicants for a particular job.

It is a negative process because unsuitable candidates are rejected and only the best candidate is selected.

Definition According to Dale Yoder, selection is the process in which candidates for employment are divided into two classes — those who are to be offered employment and those who are not.

Objectives of Selection

• To select the right person for the right job

• To reduce employee turnover

• To improve organizational performance

• To ensure job satisfaction

• To minimize training cost

SELECTION PROCESS (STEPS)

1. Preliminary Interview Basic screening of candidates

2. Application Blank Review Checking qualifications and experience

3. Written/Online Tests

1. Aptitude test

2. Technical test

3. Psychological test

4. Group Discussion (if required) To assess communication and teamwork

5. Personal Interview HR interview and Technical interview

6. Reference Check Verifying previous employment details

7. Medical Examination Ensuring physical fitness

8. Final Selection & Offer Letter

Types of Selection Tests

- Intelligence Test
- Aptitude Test
- Personality Test
- Interest Test
- Achievement Test

Employee Training and Development —

Training is short-term and job-focused, teaching the specific skills needed for an employee's current job.

Development is a longer-term process aimed mainly at preparing employees, especially managers, for future responsibilities.

Methods:-

On-the-Job Training Methods

1. Coaching Method

An experienced supervisor guides an employee individually while performing the job.

2. Mentoring Method

A senior employee (mentor) supports and advises a junior employee for career and personal development.

3. Job Rotation Method Employees are moved from one job or department to another to gain different skills and experience.

4. Job Instruction Technique (JIT)

The trainer explains the job step by step, demonstrates it, and then the employee practices it.

5. Apprenticeship Training Method

Employees receive practical training under skilled professionals for a fixed period.

6. Committee Assignment Method

Employees work as members of a committee to solve organizational problems and gain experience.

7. Understudy/Internship Training Method

An employee or intern works under an experienced person to learn the duties of a higher position.

Off-the-Job Training Methods

1. Lecture Method The trainer delivers knowledge and information through classroom lectures.

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2. Group Discussion Method

Employees discuss a topic together to improve communication and problem-solving skills.

3. Case Study Method

Employees analyze real or hypothetical business situations and suggest solutions.

4. Role Play Method

Participants act out different workplace situations to develop practical and interpersonal skills.

5. Seminar/Conference Method

Experts share knowledge and discuss new ideas, trends, and developments with participants.

6. Field Trip Method

Employees visit industries or organizations to gain practical exposure and learning.

7. Vestibule Training Method

Training is provided in a separate training center using equipment similar to the actual workplace.

8. E-learning Method

Training is delivered through online platforms, videos, and digital learning materials.

9. Demonstration Training Method

The trainer demonstrates how to perform a task, and employees learn by observing and practicing.

10. Programmed Instruction Method

Employees learn independently through structured learning materials or computer-based programs at their own pace.

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Performance Appraisal

Definition: Performance appraisal is a process of evaluating the employee's performance in a workplace covering all qualitative and quantitative aspects of the job**.**

Objectives of Performance Appraisal

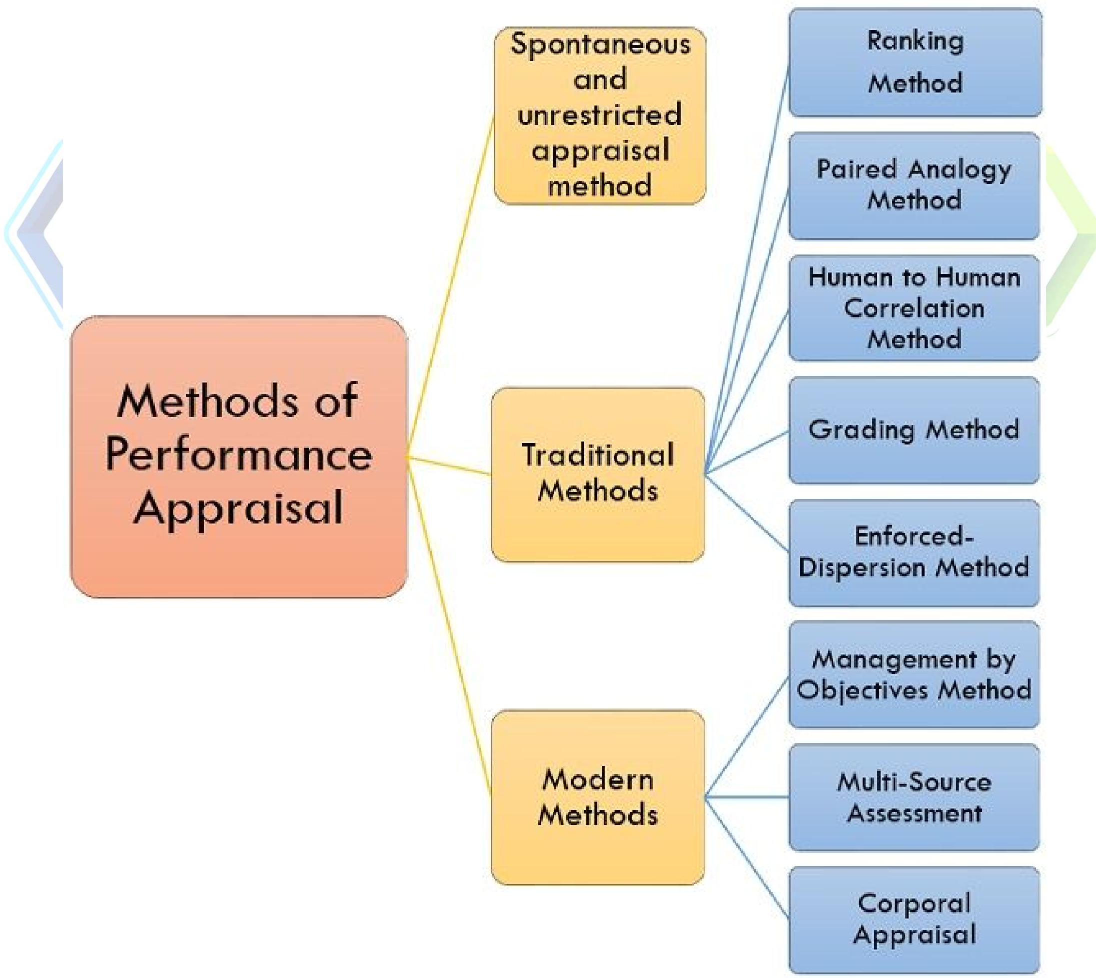
- Evaluate employee performance.
- Identify employee strengths and weaknesses.
- Decide promotions and transfers.
- Determine salary increments and rewards.
- Identify training and development needs.
- Improve communication between managers and employees.

- Motivate employees to perform better.
- Support career planning.

Importance of Performance Appraisal

- Improves employee performance.
- Helps in promotion and transfer decisions.
- Increases employee motivation.
- Identifies training requirements.
- Improves organizational productivity.
- Strengthens employer-employee relationships.

Methods:-



1. Spontaneous and Unrestricted Appraisal Method

This is an informal method of performance appraisal in which the supervisor evaluates an employee based on day-to-day observations and personal judgment without using a fixed format or rating scale.

Advantages:

- Simple and easy to conduct.
- Requires less time.
- Provides immediate feedback.

Disadvantages:

- Subjective and biased.
- Lacks proper documentation.
- Difficult to compare employees.

2. Traditional Methods

Traditional methods evaluate employees mainly based on their past performance. These methods are simple but may involve personal bias.

a) Ranking Method

Employees are ranked from the best performer to the poorest performer based on their overall performance.

Example: In a team of 10 employees, the employee with the highest performance is ranked first and the lowest performer is ranked last.

Advantages:

- Simple to understand.
- Easy to implement.

Disadvantages:

- Not suitable for large organizations.
- Does not explain reasons for rankings.

b) Paired Comparison Method (Paired Analogy Method)

Each employee is compared individually with every other employee to identify the better performer. The employee who wins the highest number of comparisons receives the highest rank.

Advantages:

- More accurate than simple ranking.
- Easy to identify the best performer.

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Disadvantages:

- Time-consuming for a large number of employees.
- Difficult when many employees are involved.

c) Human-to-Human Correlation Method

Employees are compared with a standard or ideal employee to measure their performance. The closer an employee's performance is to the ideal employee, the better the rating.

Advantages:

- Helps compare employees with a performance standard.
- Useful for identifying high performers.

Disadvantages:

- Difficult to define an ideal employee.
- Personal bias may affect evaluation.

d) Grading Method

Employees are placed into different performance grades such as **Excellent, Very Good, Good, Average, and Poor** based on their work performance.

Advantages:

- Easy to classify employees.
- Useful for promotions and rewards.

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Disadvantages:

- Differences within the same grade may not be identified.
- Subjective grading is possible.

e) Enforced-Dispersion Method (Forced Distribution Method)

Employees are divided into fixed performance categories such as:

- 10% Outstanding
- 20% Excellent
- 40% Average
- 20% Below Average
- 10% Poor

The evaluator must distribute employees into these categories regardless of their actual performance.

Advantages:

- Reduces rating bias.
- Identifies high and low performers.

Disadvantages:

- May create employee dissatisfaction.
- Good performers may receive lower ratings if category limits are full.

3. Modern Methods

Modern methods focus on employee development, future performance, and continuous improvement.

a) Management by Objectives (MBO)

Managers and employees jointly set performance goals. Employee performance is evaluated based on the achievement of these agreed objectives.

Advantages:

- Improves employee participation.
- Increases motivation.
- Focuses on results.

Disadvantages:

- Time-consuming.
- Goals may need frequent revision.

b) Multi-Source Assessment (360-Degree Feedback)

Employee performance is evaluated using feedback collected from multiple sources, including:

- Supervisor
- Peers
- Subordinates
- Customers
- Self-evaluation

Advantages:

- Provides a complete evaluation.
- Improves communication and teamwork.
- Reduces personal bias.

Disadvantages:

- Time-consuming.
- Feedback may sometimes be influenced by personal relationships.

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c) Corporate Appraisal

Corporate appraisal evaluates employee performance by considering both individual achievements and the organization's overall objectives. It focuses on employee contribution toward organizational growth and success.

Advantages:

- Aligns employee goals with company goals.
- Encourages organizational commitment.
- Supports long-term development.

Disadvantages:

- Difficult to measure individual contribution in some cases.
- Requires proper planning and evaluation systems.

Placement:-

Definition:-

Placement is the process of assigning a selected employee to the right job according to his/her qualifications, skills, experience, and abilities.

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Definition by Edwin B. Flippo

"Placement is the assignment of a specific job to each selected employee."

Objectives of Placement

- Put the right person in the right job.
- Reduce employee turnover.
- Improve productivity.
- Increase employee satisfaction.
- Reduce training costs.
- Ensure better utilization of manpower.

Principles of Placement

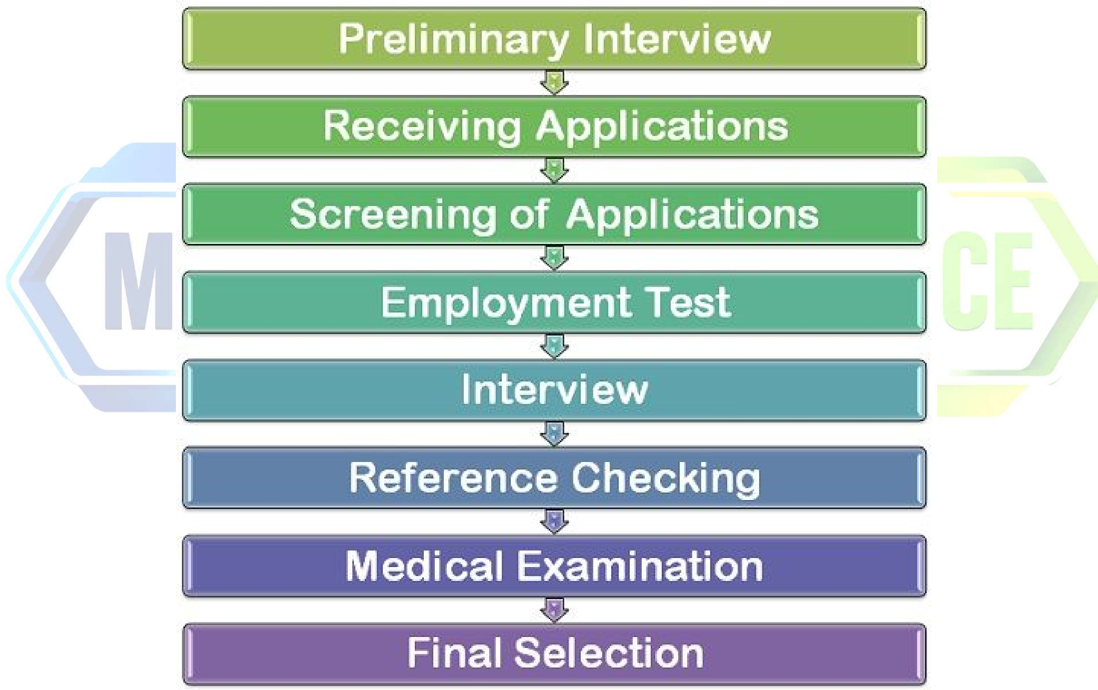
- Right person for the right job.
- Match employee skills with job requirements.
- Consider employee interests and abilities.
- Provide equal opportunities.

- Ensure proper supervision.

Importance of Placement

- Improves job satisfaction.
- Reduces absenteeism.
- Increases efficiency.
- Minimizes employee frustration.
- Enhances organizational performance.

Selection Process:-



The above diagram shows the **Selection Process**, which is the procedure followed by an organization to choose the most suitable candidate for a job.

1. Preliminary Interview

This is the first interview conducted to check the candidate's basic qualifications, communication skills, and suitability for the job.

2. Receiving Applications

The organization collects application forms and resumes from candidates who are interested in the job.

3. Screening of Applications

The received applications are carefully reviewed, and only eligible candidates are shortlisted for the next stage.

4. Employment Test

Candidates are required to take written, aptitude, technical, or skill tests to assess their knowledge and abilities.

5. Interview

The shortlisted candidates attend a formal interview where their skills, experience, personality, and suitability for the job are evaluated.

6. Reference Checking

The organization verifies the candidate's previous employment, qualifications, experience, and character by contacting references or former employers.

7. Medical Examination

The selected candidate undergoes a medical check-up to ensure they are physically and mentally fit for the job.

8. Final Selection

Based on the overall performance in all stages, the best candidate is selected and offered the job.

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Induction:-

Induction of Employees: According to Edwin B.Flippo, "Induction is concerned with introducing or orienting a new employee to the organisation. It is the welcoming process to make the new employee feel at home and generate in him a feeling of belongingness to the organisation". It is the first step in a proper communication policy which seeks to build a two-way channel of information between the management and employees.

The new employee, on his joining the organisation, must be helped to get adjusted and acquainted with the fellow employees and the work environment. Rather than leaving him to make his own way through the organisation. It is much better to properly and systematically introduce him to the company, its philosophy, its place in the industry or economy, its major policies etc.

Contents of Induction Programme: Topics to be covered in induction –

1. Company's history, mission, vision and philosophy.
2. Products and services of the company.
3. Company's organisation structure.
4. Location of departments and employee services.

5. Employee's activities like clubs, credit society.

6. Personnel policies and procedures.

7. Standing orders.

8. Rules and Regulations.

9. Terms and conditions of services.

10. Grievance procedures.

11. Safety measures.

12. Benefits and services for employees.

13. Training, promotions and transfer facility.

14. Career advancement schemes.

15. Counselling facility.

Induction Process: The following are the steps in induction process:

(1) **Welcoming the New Employees**: The first fundamental step in induction is welcoming the new employees as soon as he joins the organizations and is duly placed on the job and gives basic instruction.

(2) **Induction with Immediate Superior:** After welcome of the new employees, the next step is to introduce him with his immediate superior or with his colleagues and briefly explains his duties, responsibilities authorities, work procedure and practices.

(3) **To Impart Detail Instructions:** The third and last important step in induction is to give detail information about the company such as company policies, plans, targets objectives, goals, products services, future prospects, working environment, future facilities, salary structure promotional opportunities, transfer facilities etc. At this stage a new comer knows his job and forms opinion about it, of course which is positive and starts integrating himself with the organization his job and the environment.

<u>**Induction Methods:**</u>

The following gives us an idea as to how new employees are inducted into the organization:

(1) New employees are shown where they have to work and left to themselves for getting acquainted with fellow workers, company rules, etc.

(2) New employees are taken to the place of work and introduced to the supervisor/departmental heads, who in turn introduce them to their task and fellow workers.

(3) The supervisor informs the new employees about the plant, company rules, nature of product/products, process of production, etc. and

(4) An old experienced employee (sponsor) introduces the new employees to their work and fellow workers.

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In many organizations, a booklet is issued, titled as 'know your company', or 'this concerns you', or aap ki company ki parichay pustika, introducing new employees to the organization and giving relevant information to them.

The information given to various categories of employees at the time of induction is noted to be as follows:

(1) Information about the organization,

(2) Information about the company product/products,

(3) Information about the working rules and regulations,

(4) Information about the company's benefit plans in operation,

(5) Information about the company's recreational and educational activities,

(6) Information about the union (if the company is unionized).

Wage and Salary Administration

Meaning

Wage and Salary Administration is the process of designing, implementing, and managing a fair and systematic compensation system for employees. It ensures that employees are paid according to their work, skills, responsibilities, and performance while maintaining fairness within the organization and competitiveness with the labour market.

Definition:

Wage and Salary Administration is the process of establishing and implementing sound policies and practices for employee compensation, ensuring **internal equity** (fairness within the organization) and **external equity** (competitiveness with the labour market).

Objectives of Wage and Salary Administration

The main objectives are:

1. To provide fair and equitable wages to employees.
2. To attract qualified and skilled employees.
3. To retain experienced employees.
4. To motivate employees for better performance.
5. To improve employee morale and job satisfaction.
6. To maintain good industrial relations.
7. To comply with labour laws and government regulations.
8. To control labour costs without affecting productivity.

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Principles of Wage and Salary Administration

A good wage and salary system should follow these principles:

- Equal pay for equal work.
- Fairness and equity.
- Payment according to job value and performance.
- Competitiveness with market wages.
- Simplicity and transparency.
- Timely payment of wages.
- Flexibility to meet changing business conditions.
- Compliance with labour laws.

Factors Affecting Wage and Salary

Several factors influence employee wages and salaries:

- Nature of the job
- Employee qualifications
- Skills and experience
- Employee performance
- Cost of living
- Government labour laws
- Company's financial position
- Industry wage standards
- Demand and supply of labour
- Trade union influence

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Components of Compensation

Employee compensation consists of the following components:

1. Basic Pay

The fixed amount paid to an employee every month.

2. Dearness Allowance (DA)

Paid to compensate employees for the increase in the cost of living.

3. House Rent Allowance (HRA)

Allowance provided to meet house rent expenses.

4. Conveyance Allowance

Allowance for transportation expenses.

5. Medical Allowance

Given to meet medical expenses.

6. Incentives and Bonus

Extra payments based on employee performance or company profits.

7. Benefits and Perquisites

- Provident Fund (PF)
- Gratuity
- Insurance
- Paid Leave
- Pension
- Medical Benefits

Methods of Wage Payment

1. Time Rate System

Employees are paid according to the time worked (hourly, daily, weekly, or monthly).

Advantages

- Simple to calculate.
- Assures regular income.
- Suitable for quality work.

Disadvantages

- Does not encourage higher productivity.
- Efficient and inefficient workers receive the same pay.

2. Piece Rate System

Employees are paid according to the number of units produced.

Advantages

- Encourages higher productivity.
- Rewards efficient workers.
- Reduces supervision.

Disadvantages

- May reduce product quality.
- Creates income uncertainty.

Wage Incentive Plans

Wage incentive plans provide additional rewards for better performance.

Individual Incentives

- Bonus
- Commission

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- Merit Pay

Group Incentives

- Profit Sharing
- Gain Sharing
- Team Bonus

Job Analysis

Job analysis is the process of collecting information about a job, including duties, responsibilities, skills, and qualifications required.

Purpose

- Recruitment
- Selection
- Training
- Performance appraisal
- Wage determination

Job Evaluation

Job evaluation is the process of determining the relative worth of different jobs within an organization.

Objectives

- Maintain fair wages.
- Remove wage inequalities.
- Develop a proper salary structure.

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Wage Determination Process

Job Analysis

↓

Job Description

↓

Job Evaluation

↓

Market Wage Survey

↓

Fix Wage Structure

↓

Salary Administration

↓

Performance Review

Internal and External Equity

Internal Equity

Employees performing similar jobs within the organization receive fair and equal pay.

External Equity

Employee salaries are competitive with similar jobs in other organizations.

Minimum Wage

Minimum wage is the lowest wage fixed by the government that employers must legally pay to employees.

Importance

- Protects workers from exploitation.
- Ensures a minimum standard of living.
- Reduces poverty.

UNIT – III: HUMAN RESOURCE MANAGEMENT

Highlights

- Human Resource Management (HRM)
- Job Analysis & HR Planning
- Recruitment & Selection
- Training & Development
- Performance Appraisal
- Placement & Employee Induction
- Wage & Salary Administration

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Case Study: Employee Development at Sunrise Technologies

Sunrise Technologies, a growing software company, observed a decline in employee performance and increasing employee turnover. Many employees felt that they lacked opportunities for career growth, training, and recognition for their work. Communication between management and employees was also limited, resulting in low motivation and job dissatisfaction. To address these issues, the company improved its recruitment process, introduced regular training and development programs, implemented a transparent performance appraisal system, and established employee reward and recognition schemes. Management also encouraged open communication and employee participation in decision-making. These initiatives significantly improved employee morale, reduced turnover, increased productivity, and strengthened organizational performance. This case illustrates the importance of human resource management in developing and retaining talented employees.

Questions

1. What HR issues were faced by Sunrise Technologies?
2. How did training and performance appraisal improve employee performance?
3. Why is employee motivation important for organizational success?

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TEXT BOOKS:

1. Frederick S. Hillier, Mark S. Hillier. Introduction to Management Science, October 26, 2023.

2. A.R Aryasri, Management Science, TMH, 2019

S.No.	CO	Questions	BT
		Unit III: Human Resource Management	
		PART- A (TWO MARKS QUESTIONS)	
S.No.	**CO**	**Questions**	**BT**
1	CO3	Define Human Resource Management (HRM).	L1
2	CO3	State the nature of HRM.	L1
3	CO3	What are the managerial functions of HRM?	L1
4	CO3	What is Job Analysis?	L1
5	CO3	Define Human Resource Planning (HRP).	L1
6	CO3	What is Recruitment?	L1
7	CO3	What are the sources of Recruitment?	L1
8	CO3	What is Employee Selection?	L1
9	CO3	Define Training and Development.	L1
10	CO3	What is Performance Appraisal?	L1
11	CO3	What is Placement?	L1
S.No.	**CO**	**Questions**	**BT**
		PART-B (TEN MARKS QUESTIONS)	
1	CO3	Explain the concept, nature, managerial functions, and operative functions of Human Resource Management (HRM).	L2
2	CO3	Explain **Job Analysis** and **Human Resource Planning (HRP)** with their objectives and importance.	L2
3	CO3	**(a)** Explain the **Sources of Recruitment**. **(b)** Explain the **Employee Selection Process** with a neat diagram.	L2
4	CO3	Explain **Employee Training and Development** and discuss the various training methods.	L2
5	CO3	**(a)** Explain the concept of **Performance Appraisal**. **(b)** Explain the various **Methods of Performance Appraisal**.	L2
6	CO3	Explain **Placement** and **Employee Induction** with their objectives, importance, and process.	L2

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7	CO3	Explain **Wage and Salary Administration**, its objectives, principles, and factors affecting wages.	L2
8	CO3	**(a)** Explain the **Methods of Wage Payment**. **(b)** Explain the **Components of Employee Compensation**.	L2
9	CO3	Explain the **Recruitment and Selection Process** with a neat flow chart.	L2
10	CO3	**(a)** Explain **Job Analysis**. **(b)** Explain the **Purpose and Objectives of Job Evaluation**.	L2

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UNIT-4

STRATEGIC & PROJECT MANAGEMENT

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"Plans are only good intentions unless they immediately degenerate into hard work."

— Peter Drucker

UNIT OVERVIEW

This unit introduces the basic concepts of **Strategic and Project Management**. It covers vision, mission, goals, corporate planning, environmental scanning, SWOT analysis, strategy formulation and implementation, project management, PERT, CPM, critical path, project completion probability, project cost analysis, and project crashing. These concepts help organizations plan, execute, and complete projects effectively.

OBJECTIVES OF THE UNIT

After studying this unit, students will be able to:

1. Understand Strategic Management.
2. Learn vision, mission, and goals.
3. Explain the planning process.
4. Understand SWOT analysis.
5. Learn Project Management concepts.
6. Understand PERT and CPM techniques.
7. Identify the Critical Path.
8. Understand project cost analysis and crashing.

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LEARNING OUTCOMES

After completing this unit, students will be able to:

- Explain Strategic Management concepts.
- Describe vision, mission, and goals.
- Perform SWOT analysis.
- Understand project planning techniques.
- Apply PERT and CPM.
- Identify the Critical Path.
- Analyze project cost and crashing.

IMPORTANCE OF STUDYING THE UNIT

This unit helps students understand strategic planning and project management techniques used in organizations. It improves decision-making, project scheduling, cost control, and resource management. These concepts help organizations achieve their goals efficiently and complete projects on time.

KEY CONCEPTS

Strategic Management, Vision, Mission, Goals, Corporate Planning, Environmental Scanning, Strategy Formulation, Strategy Implementation, SWOT Analysis, Project Management, Network Analysis, PERT, CPM, Critical Path, Project Completion Probability, Project Cost Analysis, Project Crashing**.**

Strategic Management — Definition and Meaning

Strategic management is the ongoing process of formulating, implementing and evaluating cross-functional decisions that enable an organisation to achieve its long-term objectives and sustain a competitive advantage in its environment.

Strategy itself, as defined by Alfred Chandler, is "the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals."

Strategic management differs from routine operational management in that it deals with **the direction and scope of the organisation over the long term**, matching its resources to a changing external environment, particularly its markets, customers and competitors, so as to meet stakeholder expectations.

Setting Vision, Mission and Goals

A sound strategic planning process begins by clearly articulating three levels of organisational intent:

- **Vision statement:** describes what the organisation aspires to become in the future — an inspirational, long-term picture of success. Example: "To be the world's most customer-centric company." (Amazon)
- **Mission statement:** describes the organisation's fundamental purpose — why it exists, whom it serves, and how — answering "What business are we in?"Example: "To organise the world's information and make it universally accessible and useful." (Google)

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- **Goals/Objectives:** specific, measurable targets derived from the mission that guide day-to-day decision-making (e.g., "increase market share in the eastern region by 8% within two years").

Importance: vision and mission provide a unifying sense of purpose across a large, dispersed organisation; they guide resource-allocation decisions; they help attract employees and investors who share the organisation's values; and they provide a benchmark against which strategic choices can be tested ("does this decision take us closer to our mission?").

Corporate Planning Process

Corporate planning is the comprehensive process by which top management formulates long-range plans for the entire organisation, integrating the plans of individual functional areas (marketing, production, finance, HR) into one coherent direction.

Steps in the corporate planning process:

1. Defining vision, mission and long-term objectives.
2. Environmental scanning (analysing internal and external factors).
3. Strategy formulation — generating and evaluating alternative strategies.
4. Strategy selection — choosing the best-fit strategy.
5. Strategy implementation — translating strategy into structures, systems, and action plans.
6. Strategic evaluation and control — monitoring performance and revising strategy as needed.

Environmental Scanning

Environmental scanning is the systematic monitoring, forecasting and assessment of external and internal factors that could affect the organisation's ability to reach its goals, providing the raw information on which strategy is built.

Types of Environmental Scanning

1. Continuous Scanning

Continuous scanning involves regularly monitoring the environment to identify trends, changes, or threats as they occur. It is an ongoing process that provides real-time insights, helping organisations adapt quickly to evolving circumstances.

2. Periodic Scanning

Periodic scanning is conducted at set intervals, such as quarterly or annually. This approach allows organisations to analyse environmental changes and trends at specific times, making it suitable for long-term planning and strategic reviews.

3. Ad-Hoc Scanning

Ad-hoc scanning occurs as needed, typically in response to a specific issue or challenge. Organisations use this type of scanning to address unexpected situations or opportunities, focusing on immediate decision-making.

4. Strategic Scanning

Strategic scanning focuses on long-term goals and objectives. It involves analysing trends and factors that could influence an organisation's future, helping to align strategies with anticipated environmental shifts.

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Steps in Strategy Formulation and Implementation

Meaning of Strategy

A **strategy** is a comprehensive plan prepared by an organization to achieve its long-term goals and gain a competitive advantage. It helps the organization decide how to use its resources effectively to achieve success.

Strategy Formulation

Strategy formulation is the process of developing strategies to achieve organizational objectives. It involves analyzing the internal and external environment and selecting the best course of action.

Steps in Strategy Formulation

1. Define Vision and Mission

- Establish the organization's vision, mission, and long-term purpose.
- Clarify what the organization wants to achieve.

2. Set Organizational Objectives

- Define specific, measurable, achievable, realistic, and time-bound (SMART) objectives.
- Objectives provide direction for strategic planning.

3. Environmental Analysis

Analyze both the internal and external environment.

- **Internal Analysis:** Strengths and Weaknesses
- **External Analysis:** Opportunities and Threats

This is commonly known as **SWOT Analysis**.

4. Generate Strategic Alternatives

- Identify different strategies that can help achieve the objectives.
- Compare various alternatives.

5. Evaluate Strategic Alternatives

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- Analyze the feasibility, risks, costs, and benefits of each strategy.
- Select the most suitable strategy.

6. Select the Best Strategy

- Choose the strategy that best fits the organization's goals and available resources.

<u>**Strategy Implementation**</u>

Strategy implementation is the process of putting the selected strategy into action to achieve organizational goals.

<u>**Steps in Strategy Implementation**</u>

1. Develop Action Plans

- Prepare detailed plans and activities.
- Assign responsibilities.

2. Allocate Resources

- Provide financial, human, and physical resources required for implementation.

3. Design Organizational Structure

- Create an organizational structure that supports the strategy.
- Define authority and responsibility.

4. Communicate the Strategy

- Inform employees about organizational goals and their roles.
- Ensure everyone understands the strategy.

5. Execute the Strategy

- Implement the planned activities according to the schedule.

6. Monitor and Control

- Measure actual performance.
- Compare results with objectives.
- Take corrective actions if necessary.

Importance of Strategy Formulation and Implementation

- Provides clear direction to the organization.
- Helps achieve long-term objectives.
- Improves decision-making.
- Ensures efficient use of resources.
- Increases competitiveness.
- Helps organizations adapt to environmental changes.
- Improves organizational performance and growth.

Project Management

Meaning

A **project** is a temporary activity undertaken to create a unique product, service, or result. It has a definite beginning and ending, specific objectives, limited resources, and a fixed budget.

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Project Management is the process of planning, organizing, scheduling, directing, and controlling project activities to achieve project objectives within the specified time, cost, and quality.

Definition

According to the **Project Management Institute (PMI):** "Project Management is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements."

Characteristics of Project Management

- Temporary in nature
- Has a specific objective
- Limited resources
- Fixed beginning and ending dates
- Involves multiple activities
- Requires coordination among departments
- Has predetermined cost and time

<u>**Phases of Project Management:-**</u>

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Project Initiation

The initiation stage is where the project officially begins. In this phase, the project's value and feasibility are measured. The goal is to define the project at a broad level and secure approval from key stakeholders

Project Planning

The planning stage involves detailed preparation and scheduling to guide the project team through the execution phase. This is where the project's scope, objectives, resources, and timelines are thoroughly defined.

Project Execution

The execution stage is where the actual work of the project is carried out. This is where resources are utilized to produce the deliverables as per the project plan.

Project Monitoring and Controlling

The monitoring and controlling stage involves tracking the project's progress and performance to ensure it stays aligned with the plan. This phase runs concurrently with execution.

Project Closure

The closure stage marks the completion of the project. This phase involves finalizing all activities, delivering the project's final deliverables, and formally closing the project.

What is Network Analysis ?

Graphic representation of a project's operations is called a network. It is the combination of activities and events which are require to reach the end objective of a project

Objectives of Project Management

1. **Minimize Production Delays, Interruptions, and Conflicts**
   Plan and schedule activities properly to avoid delays and ensure smooth project execution.
2. **Minimize Total Project Cost**
   Control project expenses by using resources efficiently and avoiding unnecessary costs.
3. **Balance Time and Cost (Time–Cost Trade-off)**
   Reduce project time by using additional resources while keeping the extra cost under control.
4. **Minimize Total Project Duration**
   Monitor project progress regularly and revise the schedule to complete the project as early as possible.
5. **Minimize Idle Resources**
   Ensure that labour, machines, and materials are used effectively without remaining idle.

<u>**PERT (Programme Evaluation and Review Technique)**</u>

Definition

PERT (Programme Evaluation and Review Technique) is a network analysis technique used to **plan, schedule, monitor, and control** projects where the activity completion times are **uncertain**. It was developed in **1958** by the **U.S. Navy** for the Polaris Missile Project.

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Characteristics

- It is a **probabilistic** technique.
- Activity times are **uncertain**.
- It uses **three time estimates**: Optimistic, Most Likely, and Pessimistic.
- It is **event-oriented**.
- Suitable for **research and development projects**.

Three Time Estimates

- **Optimistic Time (To):** Minimum time required to complete an activity.
- **Most Likely Time (Tm):** Normal time required under usual conditions.
- **Pessimistic Time (Tp):** Maximum time required if delays occur.

Applications

- Research Projects
- Software Development
- Defence Projects
- Space Research
- New Product Development

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Expected Time Formula

CPM (Critical Path Method)

Definition

CPM (Critical Path Method) is a network analysis technique used to **plan, schedule, and control** projects where the activity completion times are **known and certain**. It was developed in **1957** by the **DuPont Company**.

Characteristics

- It is a **deterministic** technique.
- Activity times are **known and fixed**.
- It is **activity-oriented**.
- Focuses on **time and cost optimization**.
- Suitable for **construction and manufacturing projects**.

Critical Path Calculation

- Path 1: **A → B → D = 3 + 4 + 2 = 9 Days**

- Path 2: **A → C → D = 3 + 5 + 2 = 10 Days**

Critical Path = A → C → D

Project Duration = 10 Days

Applications

- Building Construction
- Road and Bridge Projects
- Manufacturing
- Plant Installation
- Maintenance Projects

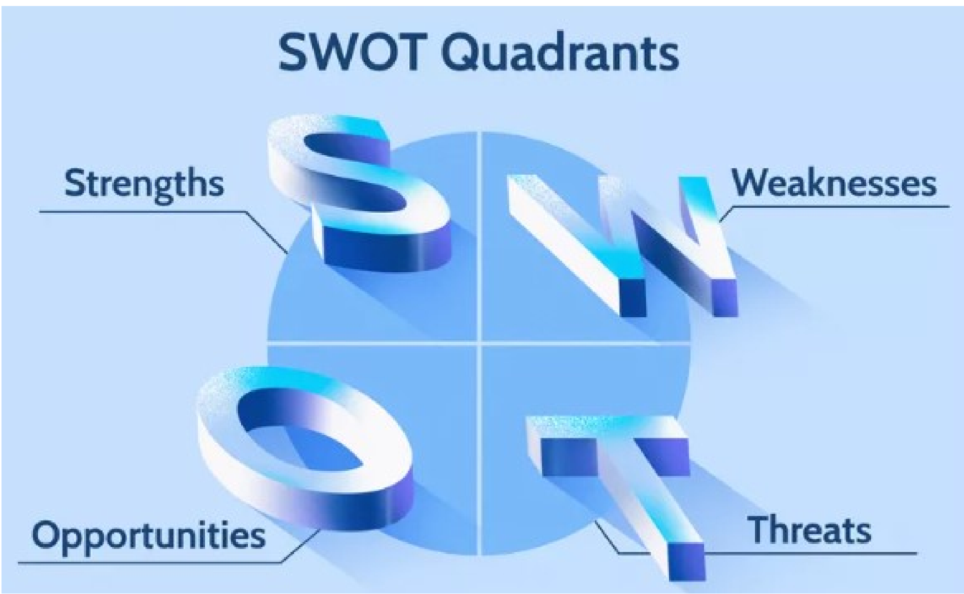
What Is SWOT?

A SWOT analysis is a realistic, fact-based, data-driven review of an organization. It helps define a company's competitive position, assesses internal and external issues, and evaluates its current and future potential.

How SWOT Works

A SWOT analysis is a technique for assessing the performance, competition, risk, and potential of a business. It can also be applied to part of a business, such as a product line, department, an industry, or other entity.

Using internal and external data, the technique can guide businesses toward strategies more likely to succeed and away from those that have been (or are more likely to be) less successful. Independent SWOT analysts, investors, or competitors can also guide them on whether a company, product line, or industry might be strong or weak and why.



Every SWOT analysis includes four categories. Though the elements and discoveries within these categories vary by company, a SWOT analysis isn't complete without each of these elements:[1]

- **Strengths**: Strengths describe what an organization excels at and what separates it from the competition: a strong brand, loyal customer base, strong balance sheet, unique technology, and so on. For example, a hedge fund may have a proprietary trading strategy that returns market-beating results. It must decide how to use those results to attract new investors.
- **Weaknesses**: Weaknesses stop an organization from performing at its optimum level. These are areas where the business needs to improve to remain competitive: a weak brand, higher-than-average turnover, high levels of debt, an inadequate supply chain, or a lack of capital.
- **Opportunities**: These are favorable external factors that could give an organization a competitive advantage. For example, if a country cuts tariffs, a car maker can export its cars into a new market, increasing sales and market share.
- **Threats**: Threats are factors that can potentially harm an organization. For example, a drought is a threat to a wheat-producing company, as it may destroy or reduce the crop yield. Other common threats include rising costs for materials, increasing competition, tight labor supply, and so on.

Probability of Completing the Project within Given Time

Since PERT treats activity times as random variables (following a Beta distribution), the overall project duration is assumed to follow a Normal Distribution by the Central Limit Theorem. This lets us calculate the probability of finishing by a target/scheduled date.

Z = (Ts - Te) / Sigma

- **Ts —** scheduled / target time by which the project is to be completed
- **Te —** expected project duration = sum of expected times (te) of all activities on the critical path
- **Sigma —** standard deviation of the project (critical path) = square root of (Sum of variances of all critical activities)

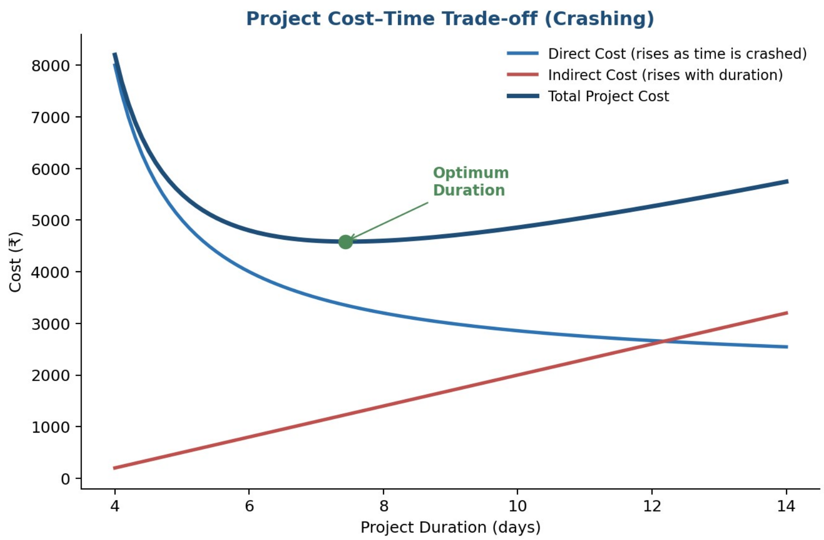
The computed Z-value is then referred to the standard normal distribution table to read off the corresponding probability (area under the curve). A higher Ts relative to Te gives a higher probability of on-time completion.

Project Cost Analysis

Direct Cost: costs directly attributable to carrying out an activity - labour, material, equipment. Direct cost rises sharply when an activity's duration is compressed (crashed) below normal time

Indirect Cost: overhead-type costs that are a function of overall project duration - supervision, administration, rent, insurance. These rise as the total project duration increases

Total Project Cost: Direct Cost + Indirect Cost. Project managers aim to identify the duration at which total cost is minimised - the optimum project duration



Cost-Time Trade-off Curve showing the Optimum Project Duration

Project Crashing

Meaning: a technique of shortening (compressing) the total project duration by expediting one or more critical activities - usually by adding extra resources (overtime, manpower, machinery) - at an additional direct cost

- **Normal Time** — the standard time to complete an activity under normal conditions and cost
- **Crash Time** — the shortest possible time in which an activity can be completed by applying extra resources
- **Normal Cost** — the cost of completing the activity in normal time
- **Crash Cost** — the (higher) cost of completing the activity in crash time

Cost Slope = (Crash Cost - Normal Cost) / (Normal Time - Crash Time)

Steps in Project Crashing

1. Identify the current critical path and its critical activities
2. Calculate the cost slope for every critical activity
3. Select and crash the critical activity with the lowest cost slope first (cheapest to expedite)
4. Recompute the critical path - it may change after crashing (a previously non-critical path may become critical)
5. Repeat the process until either the desired project duration is reached, or no further economical crashing is possible

Objective: to achieve the maximum reduction in project duration at the minimum possible additional cost, ideally stopping at the point where total cost (direct + indirect) is minimised.

Simple Problem:-

Activity	Normal Time (Days)	Crash Time (Days)	Normal Cost (₹)	Crash Cost (₹)
A	6	4	600	800
B	8	6	1000	1400

For **Activity A**

$$= \frac{800 - 600}{6 - 4} = \frac{200}{2} = ₹100 \text{ per day}$$

For **Activity B**

$$= \frac{1400 - 1000}{8 - 6} = \frac{400}{2} = ₹200 \text{ per day}$$

Advantages

- Reduces project completion time.
- Helps meet deadlines.
- Improves customer satisfaction.
- Reduces delay penalties.
- Better utilization of resources.

UNIT – IV: STRATEGIC & PROJECT MANAGEMENT

Highlights

- Strategic Management
- Vision, Mission & Goals
- SWOT Analysis

- Strategy Formulation & Implementation
- Project Management
- PERT & CPM
- Critical Path
- Project Cost Analysis
- Project Crashing

Case Study: Successful Project Execution by Build Well Constructions

Build Well Constructions was awarded a contract to construct a commercial office complex within a fixed budget and strict deadline. During the initial stages of the project, the company faced challenges such as poor scheduling, inefficient resource allocation, and increasing project costs. To overcome these issues, the project management team developed a comprehensive project plan, identified all project activities, and used PERT and CPM techniques to determine the critical path and monitor project progress. Resources were allocated efficiently, risks were continuously monitored, and regular review meetings were conducted to ensure timely completion of each phase. As a result, the project was completed on schedule, within budget, and met all quality standards. This case emphasizes the importance of strategic planning and project management techniques in achieving project success.

Questions

1. What project management challenges did BuildWell Constructions face?
2. How did the use of PERT and CPM contribute to successful project completion?
3. Why is strategic planning important in project management?

TEXT BOOKS:

1. Frederick S. Hillier, Mark S. Hillier. Introduction to Management Science, October 26, 2023.

2. A.R Aryasri, Management Science, TMH, 2019

S.No.	CO	Questions	BT
		Unit IV: Strategic and Project Management	
		PART- A (TWO MARKS QUESTIONS)	
1	CO4	Define Strategic Management.	L1
2	CO4	What is Vision?	L1
3	CO4	Differentiate between PERT and CPM.	L2
4	CO4	State the formula for Cost Slope in Project Crashing.	L1
5	CO4	Define Environmental Scanning.	L1
6	CO4	What is SWOT Analysis?	L1
7	CO4	Define Project Management.	L1
8	CO4	What is Network Analysis?	L1
9	CO4	Define PERT.	L1
10	CO4	Define Project Cost Analysis.	L1
S.No.	**CO**	**Questions**	**BT**
		PART-B (TEN MARKS QUESTIONS)	
1	CO4	Explain the concept, meaning, and importance of **Strategic Management**. Discuss **Vision, Mission, Goals, and the Corporate Planning Process**.	L2
2	CO4	Explain **Environmental Scanning** and discuss the **Steps involved in Strategy Formulation and Strategy Implementation**.	L2
3	CO4	Explain **SWOT Analysis** with suitable examples and discuss its importance in strategic planning.	L2
4	CO4	Explain the concept of **Project Management** and discuss the importance of **Network Analysis** in project planning.	L2
5	CO4	Explain **PERT (Programme Evaluation and Review Technique)** with suitable examples, advantages, and limitations.	L2
6	CO4	Explain **CPM (Critical Path Method)** and describe the procedure for identifying the **Critical Path** with a neat network diagram.	L2
7	CO4	**(a)** Explain **Vision, Mission, and Goals**.	L2

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		(b) Explain the **Corporate Planning Process**.	
8	CO4	**(a)** Explain **PERT** and its characteristics. **(b)** Explain the **Probability of Completing the Project within the Given Time**.	L2
9	CO4	**(a)** Explain **Project Cost Analysis**. **(b)** Explain **Project Crashing** with a simple numerical problem.	L4

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UNIT-5

CONTEMPORARY ISSUES IN MANAGEMENT

"The greatest danger in times of turbulence is not the turbulence—it is to act with yesterday's logic."

— Peter Drucker

UNIT OVERVIEW

This unit introduces the modern concepts and practices used in organizations to improve quality, customer satisfaction, employee performance, and business efficiency. It covers CRM, TQM, Six Sigma, SCM, ERP, Performance Management, Employee Engagement and Retention, Business Process Reengineering (BPR), Benchmarking, Knowledge Management, Change Management, Sustainability, and Corporate Social Responsibility (CSR).

OBJECTIVES OF THE UNIT

1. Understand modern management concepts.
2. Learn CRM and TQM practices.
3. Understand Six Sigma, SCM, and ERP.
4. Explain Performance Management.
5. Learn Employee Engagement and Retention.
6. Understand BPR and Benchmarking.
7. Explain Knowledge and Change Management.
8. Understand Sustainability and CSR

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LEARNING OUTCOMES

After completing this unit, students will be able to:

- Explain contemporary management concepts.
- Describe CRM, TQM, SCM, and ERP.
- Apply Performance Management techniques.
- Understand employee engagement and retention.
- Explain BPR and Benchmarking.
- Describe Knowledge and Change Management.
- Understand Sustainability and CSR.

IMPORTANCE OF STUDYING THE UNIT

This unit helps students understand modern management practices used by organizations to improve quality, customer satisfaction, operational efficiency, and employee performance. It also develops knowledge of sustainable business practices and corporate social responsibility, which are essential for long-term organizational success.

KEY CONCEPTS

Customer Relationship Management (CRM), Total Quality Management (TQM), Six Sigma, Supply Chain Management (SCM), Enterprise Resource Planning (ERP), Performance Management, Employee Engagement, Employee Retention, Business Process Reengineering (BPR), Benchmarking, Knowledge Management, Change Management, Sustainability, Corporate Social Responsibility (CSR).

Customer Relationship Management (CRM)

Meaning: a business strategy and technology-driven system for managing all interactions with current and prospective customers, aimed at improving relationships, satisfaction and long-term loyalty

CRM integrates people, processes, and technology (e.g., Salesforce, Zoho CRM) to build a 360-degree view of the customer across sales, marketing, and service touch-points.

Objectives of CRM

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- Acquire new customers and retain existing profitable ones
- Increase customer lifetime value through cross-selling and up-selling
- Improve customer satisfaction and reduce churn

Components / Types of CRM

- **Operational CRM** — automates sales, marketing and service processes (e.g., call centres, campaign management)
- **Analytical CRM** — analyses customer data to understand behaviour and improve decisions
- **Collaborative CRM** — shares customer information across departments/partners for a unified experience

Benefits of CRM

- Personalised marketing and better customer targeting
- Higher customer retention and loyalty
- Improved cross-functional coordination and faster query resolution

Total Quality Management (TQM)

Meaning: a company-wide management philosophy in which every member of the organisation, at every level, continuously works to improve processes, products and services in order to achieve sustained customer satisfaction

Pioneered by quality gurus such as W. Edwards Deming, Joseph Juran and Philip Crosby, TQM shifted quality from a final inspection activity to a continuous, organisation-wide responsibility.

Core Principles of TQM

- **Customer focus** — quality is ultimately defined by the customer
- **Continuous improvement (Kaizen)** — small, ongoing incremental improvements
- **Employee involvement** — empowering all employees to identify and solve quality problems
- **Process-centred approach** — monitoring and improving processes, not just outcomes
- **Integrated system & strategic approach** — quality linked to the organisation's mission and strategy
- **Fact-based decision making** — using data and statistical tools rather than assumptions

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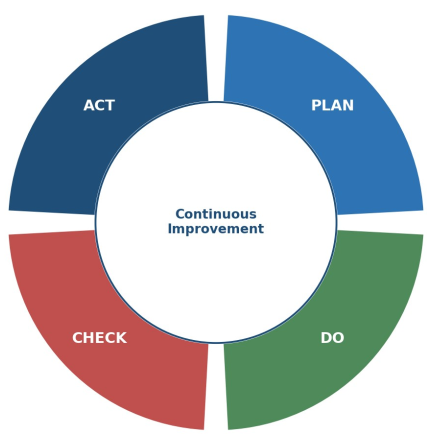
The PDCA (Deming) Cycle

A four-stage model for carrying out continuous improvement in TQM:



- The PDCA (Plan-Do-Check-Act) Cycle

- **Plan** — identify a problem and plan a solution/improvement
- **Do** — implement the plan on a small/trial scale
- **Check** — study/measure the results against expectations
- **Act** — standardise the change if successful, or revise and repeat the cycle

Tools of TQM

- Fishbone (Cause-and-Effect / Ishikawa) diagram
- Quality Circles - small employee groups that meet to solve quality problems
- Statistical Process Control (control charts)
- Benchmarking and Kaizen events

Six Sigma Concept

Meaning: a highly disciplined, data-driven quality management methodology aimed at reducing process variation and defects to near perfection - a target of only 3.4 defects per million opportunities (DPMO)

Originally developed by Motorola (1986) and popularised by General Electric, Six Sigma uses statistical analysis to measure and improve an organisation's operational performance.

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DMAIC Methodology

Used to improve an existing business process:

The DMAIC Cycle for Process Improvement

- **Define** — define the problem, goals, and customer requirements
- **Measure** — collect data and measure current process performance
- **Analyse** — identify the root causes of defects/variation
- **Improve** — implement solutions to eliminate root causes

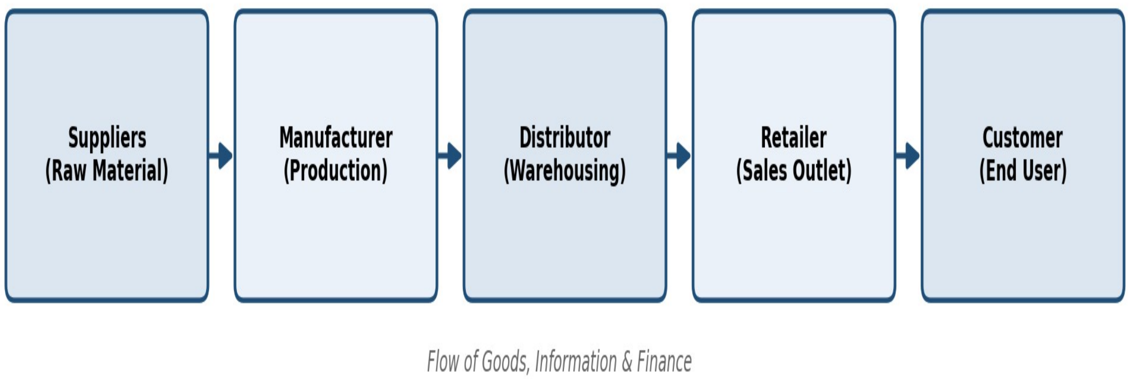
- **Control** — monitor the improved process to sustain the gains

Six Sigma Roles (Belt System)

- Champions - senior executives who sponsor projects
- Master Black Belts - expert trainers/coaches of the methodology
- Black Belts - lead individual improvement projects full-time
- Green Belts - support projects alongside their regular job roles

Supply Chain Management (SCM)

Meaning: the active management and coordination of the flow of goods, information, and finances as they move from raw-material suppliers through manufacturers, distributors and retailers to the final customer



- The Supply Chain Flow

Key Activities in SCM

- **Procurement** — sourcing raw materials and components
- **Production/Operations** — converting inputs into finished goods
- **Inventory Management** — maintaining optimum stock levels
- **Logistics & Distribution** — warehousing and transportation to the point of sale

Objectives of SCM

- Deliver the right product, in the right quantity, to the right place, at the right time, at the lowest possible cost
- Reduce lead time and inventory carrying costs
- Improve responsiveness to customer demand and build supply-chain resilience

Enterprise Resource Planning (ERP)

Meaning: an integrated software system that consolidates core business functions - finance, HR, production, sales, procurement, and inventory - onto a single unified platform, enabling real-time information sharing across the organisation

Popular ERP systems include SAP, Oracle ERP Cloud, and Microsoft Dynamics.

Features / Modules of ERP

- Finance and Accounting
- Human Resource Management
- Production/Manufacturing planning
- Sales and Distribution
- Procurement and Inventory Management

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Benefits of ERP

- Single source of truth - eliminates data duplication across departments
- Better coordination, faster and more informed decision-making
- Improved efficiency, standardisation, and regulatory compliance

Performance Management

Meaning: a continuous, systematic process of setting performance goals, monitoring progress, evaluating achievement, and providing feedback in order to improve individual and organisational effectiveness

Performance Management Cycle

6. Goal/Objective Setting - agreeing on clear, measurable targets
7. Continuous Monitoring - tracking progress throughout the period
8. Performance Review/Appraisal - formal evaluation against targets
9. Feedback - discussing results, strengths and improvement areas
10. Development & Reward - training, promotion, or compensation linked to performance

Difference from Performance Appraisal

Performance Appraisal is a periodic (often annual) formal review of past performance, whereas Performance Management is a broader, continuous, forward-looking process that links individual goals to organisational strategy throughout the year.

Importance of Performance Management

1. Improves Performance

Performance management helps employees improve their skills and achieve organizational goals.

2. Increases Transparency

It clearly defines roles, responsibilities, and expectations, helping employees understand their contribution.

3. Enhances Communication

Regular feedback between managers and employees improves communication and solves work-related issues.

4. Supports Employee Development

It identifies training needs and helps employees improve their knowledge and skills.

5. Encourages Recognition

Good performance is rewarded through promotions, incentives, and appreciation, which motivates employees.

Types of Performance Management

1. Traditional Performance Management

Performance is evaluated through annual performance reviews and ratings.

2. 360-Degree Feedback

Feedback is collected from managers, peers, subordinates, and customers for a complete evaluation.

3. Goal-Based Performance Management

Employees are evaluated based on the achievement of SMART (Specific, Measurable, Achievable, Relevant, Time-bound) goals.

4. Continuous Performance Management

Managers provide regular feedback and coaching throughout the year instead of only annual reviews.

5. Behaviorally Anchored Rating Scales (BARS)

Employees are evaluated based on specific work-related behaviors and performance standards.

6. Management by Objectives (MBO)

Managers and employees jointly set goals, and performance is measured based on achieving those objectives.

<u>Employee Engagement and Retention</u>

Employee Engagement: The level of emotional commitment, involvement and enthusiasm an employee has toward the organisation and its goals, which drives discretionary effort beyond the minimum job requirement.

Employee Engagement Activities

- Employee recognition programs.
- Team-building activities.
- Training and skill development.
- Performance feedback.
- Employee wellness programs.
- Cultural and sports events.
- Open communication.
- Suggestion schemes.
- Flexible working arrangements.
- Employee appreciation awards.

Benefits of Employee Engagement

For Employees

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- Higher motivation.
- Better job satisfaction.
- Career development.
- Improved work-life balance.
- Recognition and rewards.

For Organizations

- Higher productivity.
- Better customer satisfaction.
- Increased profitability.
- Reduced absenteeism.
- Improved employee retention.
- Strong organizational culture.

Employee Retention: the set of policies and practices used by an organisation to encourage talented employees to remain with it for a longer period, thereby reducing costly turnover

Key Drivers of Engagement & Retention

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- Recognition and reward for good performance
- Career growth, learning and development opportunities
- Fair and competitive compensation
- Healthy work-life balance and supportive culture
- Effective leadership and open communication

Consequences of Low Engagement

- Higher absenteeism and employee turnover
- Lower productivity and customer satisfaction
- Increased recruitment and training costs

<u>Importance of Employee Retention</u>

1. Reduces Recruitment Costs

Hiring and training new employees is expensive. Retaining employees saves these costs.

2. Improves Productivity

Experienced employees perform their jobs more efficiently than new employees.

3. Increases Employee Morale

Employees feel secure and motivated when the organization values them.

4. Better Customer Service

Long-term employees have better product knowledge and provide improved customer service.

5. Preserves Organizational Knowledge

Retaining experienced employees helps preserve valuable skills and knowledge.

6. Improves Company Reputation

Organizations with low employee turnover attract talented professionals.

<u>Employee Retention Strategies</u>

- Provide competitive salary and benefits.
- Offer career growth and promotion opportunities.
- Conduct training and development programs.
- Recognize and reward employee performance.
- Maintain work-life balance.
- Ensure job security.
- Encourage employee participation in decision-making.
- Conduct regular employee feedback and satisfaction surveys.

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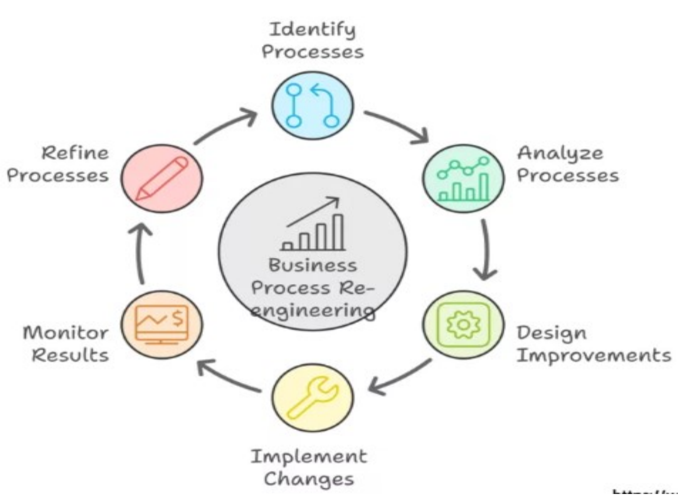
<u>Business Process Re-engineering (BPR) and Benchmarking</u>

Business Process Re-engineering (BPR): the fundamental rethinking and radical redesign of core business processes to achieve dramatic (not incremental) improvements in critical measures such as cost, quality, service and speed

Coined by Michael Hammer and James Champy (1990s), BPR asks "If we were creating this company today, given what we know and current technology, what would it look like?" - often enabled by information technology.



The 7 Steps of Business Process Re-engineering

1. Identify Processes for Re-engineering

- Have the greatest impact on customer satisfaction
- Show significant performance gaps
- Offer the highest potential ROI

2. Analyze Current Processes

- Map current process flows
- Identify bottlenecks and inefficiencies
- Gather baseline performance metrics
- Document pain points and improvement opportunities

3. Redesign the Process

- Question every assumption
- Consider multiple alternative approaches
- Leverage new technologies
- Focus on customer value

4. Acquire Resources for the New Process

- Clear business case presentation
- Detailed resource requirements
- Technology infrastructure planning
- Training needs assessment

5. Implement the New Process

- Developed detailed implementation plans
- Created communication strategies
- Established training programs
- Managed stakeholder expectations

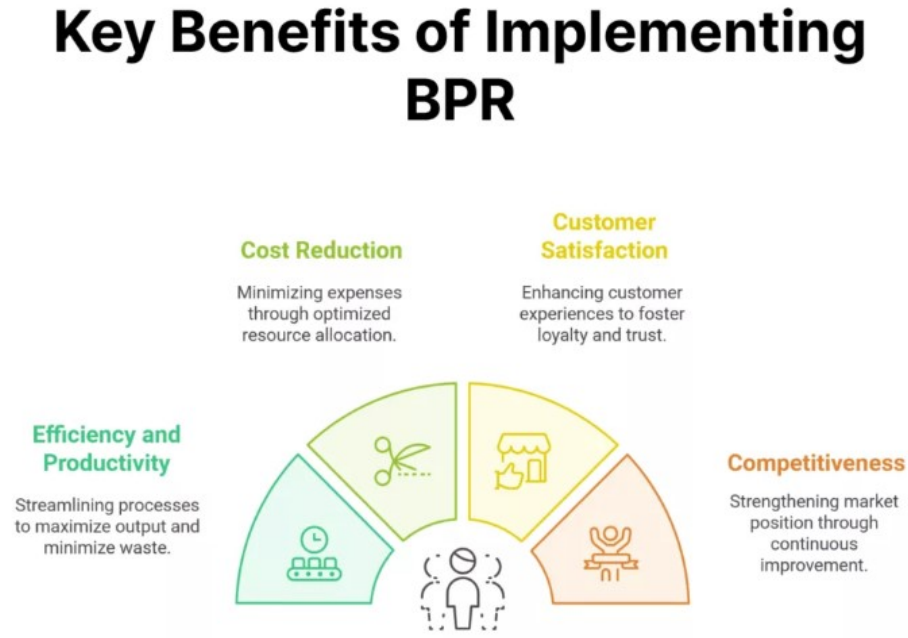
6. Monitor and Evaluate the Process

- Establishing clear KPIs
- Implementing monitoring systems
- Conducting regular performance reviews
- Gathering stakeholder feedback

7. Continuous Improvement

- Regular process audits
- Feedback loops

- Continuous optimization
- Technology updates



<u>Benchmarking:</u> the systematic process of comparing an organisation's own processes, products, and performance metrics against those of best-in-class or industry-leading organisations, in order to identify gaps and best practices

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Types of Benchmarking

- **Internal Benchmarking** — comparing practices between departments/units of the same organisation
- **Competitive Benchmarking** — comparing against direct competitors
- **Functional Benchmarking** — comparing a specific function against the best in any industry
- **Generic Benchmarking** — comparing fundamental work processes that are similar regardless of industry

Benefits of Business Benchmarking

- Improved Performance: By measuring against top-performing peers, businesses can pinpoint areas of underperformance and develop strategies to improve.
- Competitive Advantage: Provide insights into what competitors are doing right and how they are achieving success. This allows companies to stay competitive and potentially outmanoeuvre rivals by implementing superior strategies.

- Best Practice Identification: Uncover best practices that are driving success in other companies. Adopting these best practices can lead to operational efficiency and higher standards across various business processes.
- Objective Assessment: Apply an objective way to evaluate performance rather than relying solely on internal metrics. This external perspective can reveal blind spots and provide a more accurate picture of where a company stands in the industry.
- Goal Setting and Strategic Planning: Set realistic goals based on data-driven insights. Knowing what top performers have achieved provides a clear, evidence-based benchmark that can guide strategic planning and goal setting.
- Enhanced Customer Satisfaction: Focusing on customer service metrics helps organisations identify how to meet or exceed customer expectations, leading to better customer experiences and loyalty.

Knowledge Management (KM)

Meaning: the systematic process of creating, capturing, organising, sharing, and effectively applying an organisation's collective knowledge and experience to improve performance, innovation and decision-making

Why Knowledge Management

Application of Knowledge Management (KM) lie in the below four key areas

Globalization of Business − Organizations today are more universal i.e., they are operating in multiple sites, multilingual, and multicultural in nature.

Leaner Organizations − Organizations are adopting to a lean strategy where they understand customer value and focus on key processes to continuously increase it. The ultimate goal is to provide perfect value to the customer through a perfect value creation process that has zero waste.

Corporate Amnesia − We are freer as a workforce, which creates issues regarding knowledge continuity for the organization and places with continuous learning demands from knowledge worker. We no longer expect to spend our entire work life with the same organization.

Technological Advances − The world is more connected with the advent of websites, smart phones and other latest gadgets. Advancements in technology has not only helped in better connectivity but also changed expectations. Companies are expected to have online presence round the clock providing required information as per the customer needs.

Types of Knowledge

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- **Tacit Knowledge —** personal, experience-based know-how that is difficult to document (skills, intuition, judgment)
- **Explicit Knowledge** — formally documented knowledge that can be easily codified and shared (manuals, reports, databases)

KM Process

- Knowledge Creation/Capture
- Knowledge Storage/Organisation (repositories, databases)
- Knowledge Sharing/Dissemination (intranets, communities of practice)
- Knowledge Application (using it to improve decisions and processes)

Benefits of Knowledge Management

- Prevents loss of critical knowledge when employees leave
- Speeds up problem-solving and avoids reinventing the wheel
- Fosters innovation through shared learning

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Change Management

Meaning: a structured, systematic approach for transitioning individuals, teams and organisations from a current state to a desired future state, while minimising resistance and disruption

Lewin's Three-Step Change Model

Fig. 5.4 - Lewin's Unfreeze - Change - Refreeze Model

- **Unfreeze —** creating awareness of the need for change and reducing resistance to it
- **Change (Move) —** actually implementing the new processes, behaviours, or structures
- **Refreeze —** stabilising and reinforcing the new state so it becomes the norm

Common Causes of Organisational Change

- Technological advancement and digital transformation
- Competitive pressure and market changes
- Mergers, acquisitions and restructuring
- Changes in government policy/regulation

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Resistance to Change

Employees often resist change due to fear of the unknown, habit, loss of job security, or lack of communication and trust. Resistance can be managed through participation, transparent communication, training, and strong leadership support.

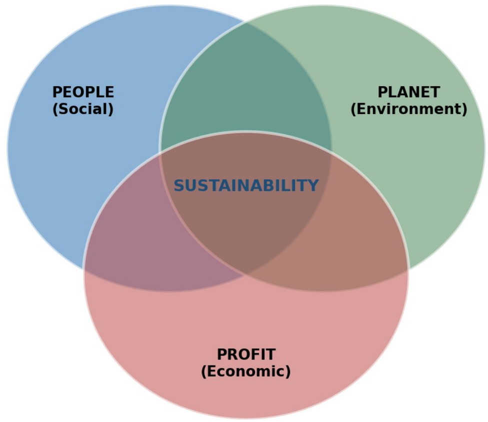
Sustainability and Corporate Social Responsibility (CSR)

Sustainability: meeting the needs of the present without compromising the ability of future generations to meet their own needs - balancing economic growth, social wellbeing, and environmental protection

According to the **Brundtland Commission (1987)**:

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

The Triple Bottom Line (3Ps)



The Triple Bottom Line: People, Planet, Profit

- **People (Social)** — fair labour practices, employee welfare, community development
- **Planet (Environment)** — reducing pollution, conserving resources, minimising carbon footprint
- **Profit (Economic)** — maintaining financial viability and shareholder value

Corporate Social Responsibility (CSR): the voluntary commitment of a business to conduct its operations ethically, contribute to sustainable economic development, and improve the quality of life of its employees, local communities, and society at large

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Meaning

Corporate Social Responsibility (CSR) is a business approach in which an organization voluntarily takes responsibility for the social, environmental, and economic impact of its activities. It means that companies should not only focus on earning profits but also contribute to the welfare of society and protect the environment.

Objectives of CSR

The main objectives of Corporate Social Responsibility are:

1. To improve the quality of life of society.
2. To protect the environment and natural resources.
3. To conduct business ethically and transparently.
4. To support sustainable economic development.
5. To improve employee welfare and workplace safety.
6. To strengthen relationships with customers and stakeholders.

7. To promote education, healthcare, and community development.
8. To enhance the company's reputation and public image.

CSR Activities (Common Examples)

- Environmental protection and green initiatives
- Education, healthcare, and community welfare programmes
- Ethical labour practices and diversity & inclusion
- Philanthropy and disaster relief contributions

In India, Section 135 of the Companies Act, 2013 makes it mandatory for certain companies to spend at least 2% of average net profits on CSR activities.

Features (Characteristics) of CSR

1. Voluntary Responsibility

Companies voluntarily undertake activities that benefit society beyond legal requirements.

2. Ethical Business Practices

CSR promotes honesty, fairness, transparency, and accountability.

3. Environmental Protection

It encourages companies to reduce pollution, conserve energy, and manage waste effectively.

4. Stakeholder Orientation

CSR considers the interests of employees, customers, suppliers, investors, government, and society.

5. Sustainable Development

CSR balances economic growth with environmental protection and social welfare.

6. Community Development

Companies support education, healthcare, sanitation, skill development, and rural development.

7. Long-term Commitment

CSR is a continuous process rather than a one-time activity.

Importance of CSR

CSR benefits both businesses and society.

1. Improves Brand Image

Customers trust socially responsible companies.

2. Increases Customer Loyalty

Consumers prefer products from responsible organizations.

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3. Employee Satisfaction

Employees feel proud to work for socially responsible companies.

4. Attracts Investors

Investors prefer companies with strong ethical values.

5. Environmental Protection

CSR helps reduce pollution and conserve resources.

6. Better Community Relations

It creates goodwill among local communities.

7. Long-term Profitability

Responsible companies achieve sustainable business growth.

Areas of CSR Activities

Companies undertake CSR activities in areas such as:

- Education
- Healthcare & Environmental protection
- Rural development
- Women empowerment
- Skill development
- Sanitation
- Drinking water facilities
- Disaster relief
- Sports promotion

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UNIT – V: CONTEMPORARY ISSUES IN MANAGEMENT

Highlights

- Customer Relationship Management (CRM)
- Total Quality Management (TQM)
- Six Sigma
- Supply Chain Management (SCM)
- Enterprise Resource Planning (ERP)
- Performance Management & Knowledge Management
- Employee Engagement & Retention
- Business Process Reengineering (BPR) & Change Management
- Benchmarking & Sustainability & Corporate Social Responsibility (CSR)

Case Study: Digital Transformation at Smart Retail Pvt. Ltd.

Smart Retail Pvt. Ltd., a traditional retail company, experienced declining sales due to changing customer preferences and increased competition from online retailers. The management realized that adopting modern technology was essential to remain competitive. The company introduced an online shopping platform, implemented digital payment systems, trained employees in digital tools, and used customer feedback to improve its products and services. It also adopted environmentally friendly packaging and supported community welfare initiatives as part of its social responsibility. These changes improved customer satisfaction, increased online sales, enhanced the company's reputation, and strengthened its competitive position in the market. This case demonstrates how organizations can successfully respond to contemporary management challenges through innovation, technology, and social responsibility.

Questions

1. What contemporary management challenges were faced by Smart Retail Pvt. Ltd.?
2. How did digital transformation improve the company's business performance?
3. Why are innovation and social responsibility important for modern organizations?

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TEXT BOOKS:

1. Frederick S. Hillier, Mark S. Hillier. Introduction to Management Science, October 26, 2023.

2. A.R Aryasri, Management Science, TMH, 2019

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		Unit IV: Strategic and Project Management	
		PART- A (TWO MARKS QUESTIONS)	
1	CO5	Define Customer Relationship Management (CRM).	L1
2	CO5	What is Total Quality Management (TQM)?	L1
3	CO5	Define Six Sigma.	L1
4	CO5	What is Supply Chain Management (SCM)?	L1
5	CO5	Define Enterprise Resource Planning (ERP).	L1
6	CO5	What is Performance Management?	L1
7	CO5	Define Employee Engagement.	L1
8	CO5	What is Employee Retention?	L1
9	CO5	Define Business Process Reengineering (BPR).	L1
S.No.	**CO**	**Questions**	**BT**
		PART-B (TEN MARKS QUESTIONS)	
1	CO5	Explain **Customer Relationship Management (CRM)** with its objectives, components, and benefits.	L2
2	CO5	Explain **Total Quality Management (TQM)** and discuss its principles, PDCA cycle, and quality tools.	L2
3	CO5	Explain the **Six Sigma Concept** and discuss the **DMAIC methodology** with suitable examples.	L2
4	CO5	Explain **Supply Chain Management (SCM)** and **Enterprise Resource Planning (ERP)** with their objectives, features, and benefits.	L2
5	CO5	Explain **Performance Management**, its cycle, types, and importance.	L2
6	CO5	**(a)** Explain **Employee Engagement** and its benefits. **(b)** Explain **Employee Retention** and the strategies for retaining employees.	L2
7	CO5	**(a)** Explain **Business Process Reengineering (BPR)**. **(b)** Explain **Benchmarking** and its types.	L2

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8	CO5	**(a)** Explain **Knowledge Management (KM)** and its process. **(b)** Explain **Change Management** and **Lewin's Three-Step Model**.	L2
9	CO5	**(a)** Explain the concept of **Sustainability**. **(b)** Explain the objectives, features, and importance of **Corporate Social Responsibility (CSR)**.	L2
10	CO5	Differentiate between **TQM and Six Sigma**, and explain their role in improving organizational performance.	L4

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