SYLLABUS

UNITS	TOPICS
Unit-1	Historical Background of Project Planning, aspect of project planning, Meaning, nature and Type of project planning, Project Identification and Selection- Introduction, Project Identification Process, Pre- feasibility study, Project Break-even point, Role and responsibility of the project manager.
Unit- 2	PERT and CPM – Introduction, Development of project network, Time estimation, Determination of critical path, PERT model, Measures of Variability, CPM model, Network costing system, Project duality management.
Unit- 3	Project management information system- Introduction, Process, Scope. Planning of PMIS, Design of PMIS, Project Risk Management- Introduction, Risk Management, Role of Risk management in overall project management, Steps in risk management, Risk Identification, Risk Analysis and Reducing Risks.
Unit- 4	Project performance measurement and evaluation – Introduction, Performance, Measurement, Productivity, Project performance evaluation, Benefits and challenges of performance measurements and evaluation, Controlling the projects, Project close out, Termination and follow up
Unit- 5	Project management software- Introduction, Advantages of using of Project management software, common features availability in most of the project management software Illustration.

UNIT-1

Introduction

Realization of these objectives requires systematic planning and careful implementation. To this effect, application of knowledge, skill, tools and techniques in the project environment, refers to project management. Project management in recent years has proliferated, reaching new heights of sophistication. It has emerged as a distinct area of management practices to meet the challenges of new economic environment, globalization process, rapid technological advancement, and quality concerns of the stakeholders.

Project Definition

Project in general refers to a new endeavor with specific objective and varies so widely that it is very difficult to precisely define it. Some of the commonly quoted definitions are as follows. Project is a temporary endeavor undertaken to create a unique product or service or result

Project is a unique process, consist of a set of coordinated and controlled activities with start and finish dates, undertaken to achieve an objective confirming to specific requirements, including the constraints of time cost and resource.

Examples of project include Developing a watershed, Creating irrigation facility, Developing new variety of a crop, Developing new breed of an animal, Developing agro processing center, Construction of farm building, sting of a concentrated feed plant etc. It may be noted that each of these projects differ in composition, type, scope, size and time. Project Characteristics Despite above diversities, projects share the following common characteristics.

- Unique in nature.
- Have definite objectives (goals) to achieve.
- Requires set of resources.
- Have a specific time frame for completion with a definite start and finish.

- Involves risk and uncertainty.
- Requires cross-functional teams and interdisciplinary approach.
- Define the goals and objectives of the project
- Define the goals and objectives of the project

Project planning is a critical element of project management, as it sets the stage for the entire project.

Historical Background of Project Planning

Early History

- Project planning has existed since ancient civilizations.
- Large projects like the **Pyramids of Egypt**, **Great Wall of China**, and **Roman roads** required planning, coordination, and resource management.
- Planning was informal, based on experience, authority, and trial-and-error.

Industrial Revolution (18th–19th Century)

- Rapid industrial growth increased the size and complexity of projects.
- Need arose for **systematic planning**, scheduling, and control.
- Introduction of division of labor and management principles.

Scientific Management Era (Early 20th Century)

- **Frederick Winslow Taylor** introduced Scientific Management.
- Focus on efficiency, standardization, and task optimization.
- **Henry Gantt** developed the **Gantt Chart** (1910s), a key project scheduling tool still used today.

Mid-20th Century Developments

- Large military and space projects (e.g., WWII, Cold War, NASA projects) demanded advanced planning methods.
- Development of:
    - **PERT (Program Evaluation and Review Technique)** – used by the U.S. Navy.

- **CPM (Critical Path Method)** – used in construction and engineering projects.

Modern Project Planning

- Emergence of project management as a professional discipline.
- Establishment of organizations like:
  - **Project Management Institute (PMI)** (1969)
- Introduction of standards such as:
  - **PMBOK Guide**
- Use of project management software (MS Project, Primavera, Agile tools).
- Adoption of modern approaches like **Agile**, **Scrum**, and **Lean**.

Project Planning

Project is basically defined as a series of related tasks directed toward a major output. In order to reach the desired goal of productivity, foremost project team is formed and project manager is appointed to lead the team. He coordinates activity of team and reports directly to the top management. The manager gives the high visibility within the organisation and ensures cooperation among the project team members. The project organisation is established in the beginning of the project so that an efficient plan can be developed. The organisation is responsible for the scheduling and controlling of the project. Thus, the project managers, team members and organization play significant role throughout the project period. Before the project starts, top management must categorise the project, i.e. pure project, functional project and matrix project. Out of three, former one requires self contained teams that give their full time into the project. Its merits and demerits are as follows :

Merits

• The project manager has full authority over the project.

• Members report to team manager. They do not have to worry about dividing loyalty with a functional-area manager.

• Lines of communication are shortened. Decisions are made quickly.

- **Define the goals and objectives of the project**

Set specific, measurable, achievable, relevant, and time-bound (SMART) goals. This includes the milestones and smaller tasks the team must complete by the end of the project. It is important to get input from all stakeholders when creating the work plan to ensure that everyone is on the same page.

- **Develop the project plan**

Define the project's scope by creating a work breakdown structure, schedule, and budget. The work breakdown structure details the tasks that need to be completed, the schedule outlines the timeline for the project, while the budget identifies the resources required and costs associated with the project.

- **Identify the project risks**

The project manager makes a plan for the unexpected. This includes possible solutions to manage potential risk. A contingency plan is included in case something goes wrong.

- **Create a communication** plan

The communication plan dictates who's to be updated on the project's progress and how often. This ensures everyone is on the same page.

- **Assign roles and responsibilities**

Each team member needs to know what is expected of them. This includes their deliverables and deadlines. The project manager assigns tasks depending on each member's strengths and weaknesses. This ensures tasks are completed effectively, and the project stays on track.

- **Obtain approvals**

The project lead presents the plan to the company's CEO for approval. Once approved, the head of marketing is responsible for ensuring that all tasks are completed on time and within budget.

- **Launch the project**

A kickoff meeting marks the beginning of the execution phase. It sets the pace for the project. This is when the team puts all the pieces together and starts working towards the project goals. To organize a successful kickoff meeting:

- Ensure all the stakeholders are in attendance. Reschedule if a key person is unavailable on the chosen day.

- **Monitoring and evaluation**

The project manager monitors and adjusts the plan as needed to ensure the successful completion of the project.

Types of project planning

The type of planning depends on the nature of the project and personal preferences. There are three types of project planning: vertical, horizontal, and joint

Vertical planning

- **Vertical planning**

Also known as waterfall planning, vertical planning is when the project manager plans the different phases of the project sequentially, from start to finish.

- **Horizontal planning** Horizontal planning

Horizontal planning is when the different parts of the project are planned simultaneously. This type of planning is also known as agile planning.

J Joint planning

- **Joint planning**

This is a mix of both vertical and horizontal planning. Part of the project is planned sequentially, and some parts are planned at the same time. This type of planning is also known as integrated planning.

Role and responsibility of project manager.

The Role of the Project Manager Project management is organizing and directing other people to achieve a planned result within a predetermined schedule and budget. Project managers must be effective internally (managing people and resources) and externally (conducting public relations). This list identifies a few of these internal responsibilities:

- Developing the project schedule
- Recruiting and training team members
- Assigning work to teams and team members
- Assessing project risks
- Monitoring and controlling project deliverables and milestones

Major external responsibilities include:

- Reporting the project's status and progress
- Working directly with the client (the project's sponsor) and other stakeholders
- Identifying resource needs and obtaining resources

UNIT-2

PERT and CPM – Introduction

The two best known network planning models are the Critical Path Method (CPM) and Program Evaluation and Review Technique (PERT). PERT and CPM are alike in most respect, except for few extra modification incorporated into PERT and not found in CPM. The CPM was developed for scheduling maintenance shutdown. It is based on an assumption that project activity times can be estimated accurately without any variation. Whereas, PERT was developed for scheduling the uncertain time estimates activities.

The two methods used for the critical path analysis, are widely used in project management problems. The CPM deals with purely deterministic problems and PERT allows randomness in the activity times. The primary elements for the critical path analysis are :

Project

A unique venture with a beginning and one end, undertaken by people to meet established goals within defined constraints of time, resources, and quality.

Activity

The project is broken into a set of indivisible activities by its planner. It is the most difficult part of the project management, i.e. to find the best possible way of breaking the project into a collection of distinct activities.

Activity Relationship

An important part of the project planning is to determine the relationship between the activities, i.e. to determine the precedence constraints and describe the logical sequence to complete the project

Project Scheduling

Strategic Planning in Production Management It is the specification of the starting and ending times of all activities belonging to the projects

Project Monitoring and Control Once the above steps are completed, the project monitoring and controlling process is used by project managers to ensure the team is making satisfactory progress to the project goals. The purpose is to track all major project variables – cost, time, slope, and quality of deliverables. Due to the above mentioned detail and precision required in critical path analysis methodology, it is one of the most difficult tasks in the project management. Inspite, of difficulties, these methodologies have found wide acceptance in manufacturing and various other sectors. In literature, various case studies are presented to demonstrate its successful application in military, banks, hotels, etc. The popularity of network based scheduling can be attributed to its many benefits, especially its ease of use. Other benefits include the following :

(a) It provides a visual display of the needed tasks and their temporal ordering, which makes it easy to see how tasks should be sequenced. This assists communication and cooperation among task teams because each team can see how its work affects that of other teams.

(b) It provides a relatively accurate estimate of the time required to complete the project at the proposed resource level.

(c) It identifies and highlights the tasks that are critical to keeping the project on schedule.

(d) It provides a method for monitoring the project throughout its life cycle. As the project progresses, PERT/CPM easily identifies changes in which tasks are critical and how the expected completion date is affected.

(e) It provides a convenient method for incorporating uncertainty regarding task times into the schedule, and it helps to evaluate the effect of this uncertainty on project completion time.

(f) It provides a method for evaluating the time-cost trade-offs resulting from reallocating resources among tasks.

Basic Convention Techniques Used in Project Management Two conventions are used in practice for displaying project networks :

(a) Activity-on-Node (AON)
(b) Activity-on-Arc (AOA)

The characteristics of the two are : AON

• Each activity is represented by a node in the network

• A precedence relationship between two activities is represented by an arc or link between the two.

• AON may be less error prone because it does not need dummy activities or arcs. AOA

• Each activity is represented by an arc in the network.

• If activity X must precede activity Y, there are X leads into arc Y. Thus, the nodes represent events or "milestones" (e.g., "finished activity X"). Dummy activities of zero length may be required to properly represent precedence Project Management relationships.

• AOA historically has been more popular, perhaps because of its similarity to Gantt charts used in scheduling.

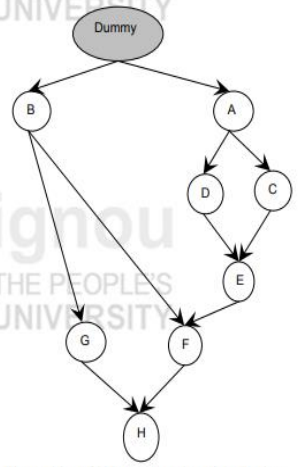


Figure 4.3 : AON Representation of the Project

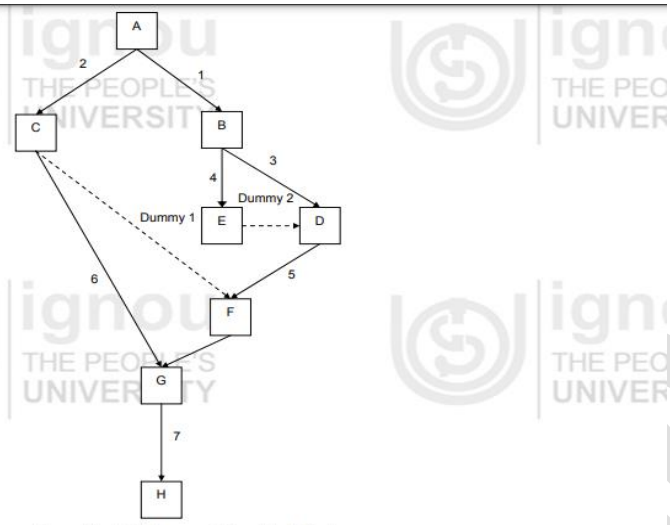


Figure 4.4 : AOA Representation of the Project

The next section gives the detail description of CPM and PERT along with few examples in order to give a clear picture of these methodology.

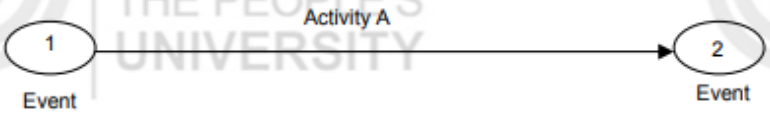
Critical path method

Critical path method is designed for the projects involving many activities with on-time completion. It can also be referred as CPM with a single time estimate because it assumes that activity time is known. It is a dynamic system that is used periodically as the project progresses. 4.4.1 Generic Steps The basic steps for scheduling a project are as follows : Activity Identification The first and foremost step in critical path analysis is to divide the project into the activities. The project team decides the activity, i.e. the components of the project. For example, a project is to decide whether to invest in an industry or not. Team members divide the project into following activities :

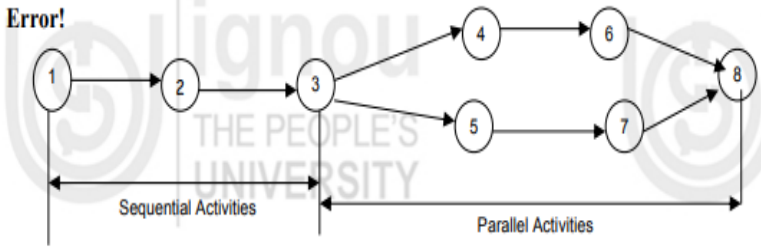
- Selecting a industry.
- Collecting its annual report and performing a ratio analysis
- Collecting technical stock price data.
- Finally, reviewing the data and preparing a report.

Activity Sequence and Network Formation

The next step is to identify the required sequence of activities identified in the previous step in a way that it satisfies the required precedence constraints. The activities that are to be performed before certain activity is said to be in its precedence. Further, a network is to be drawn showing the precedence relationship between the activities. Any project can be represented by an arrow diagram in which arrangement of arrows indicates the sequence of individual jobs and their dependence on other jobs. Arrow diagram consists of two basic elements : activities and events. In an arrow diagram, an activity is a time consuming task and is represented by an arrow. An event is considered as instantaneous, i.e. a point in time and is represented by a circle. 1 and 2 are events while arrow shown is activity A

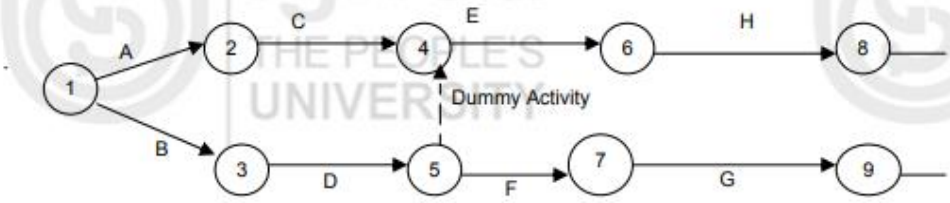


Basically there are two type activities viz. sequential and parallel. Activities occurring in the same path are sequential and are directly dependent on each other, whereas, parallel activities on different paths are independent of one another



In network diagram there may be certain dummy activities defined as the activities that consume no time; they are of zero duration and are used solely for convenience in

network construction. It is represented by dotted lines Dummy activities are useful in avoiding more than one activity with same beginning and end event.



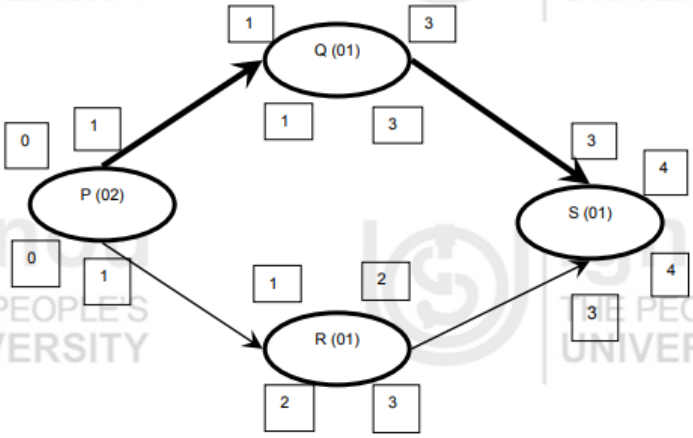
Determination of Early Start/Finish and Late Start/Finish Schedule To schedule an activity, the next step is to find when each activity is started and finished. For some activity there is certain time gap i.e. time when the activity starts and when it finishes, usually referred as slack time. In the CPM process we calculate the early start time, early finish time, late start time and late finish time. The brief descriptions of these activities are given in following definition :

Definition 4.2 The Earliest Start (ES) Time for a task is the time at which the work starts, with an assumption that the entire tasks take their estimated time.

Definition 4.3 The Earliest Finishing (EF) Time is time at which the work can be completed, assuming all task their estimated time. Definition

4.4 The Latest Start (LS) Time is defined as the time at which work can start on a task without postponing completion of the project. Definition

4.5 The Latest Finishing (LF) Time is defined as the time at which work can start on a task without postponing completion of the project. From above definition, it can be said that the slack time is the difference between the late start and early start time. For the convenience of the potential users these time units are placed in a specific position around an activity.



PERT, the Project Evaluation and Review Technique, is a network-based aid for planning and scheduling the many interrelated tasks in a large and complex project. It was developed during the design and construction of the Polaris submarine in the USA in the 1950s, which was one of the most complex tasks ever attempted at the time. Nowadays PERT is routinely used in any large project such as software development, building construction, etc. Supporting software such as Microsoft Project, among others, is readily available. It may seem odd that PERT appears in a book on optimization, but it is frequently necessary to optimize time and resource constrained systems, and the basic ideas of PERT help to organize such an optimization.

The PERT is used in the situation when the CPM with single time estimate is unreliable. It is basically the generalization of the former method explained in Section 4.3 that offers uncertainty in the activity time. When activity times are difficult to predict in advance, this modified method provide estimated project time. In this modified form of CPM i.e. PERT, or CPM with three activity time estimate, three time unit are considered entitled as optimistic value (maximum time unit), most likely value and pessimistic value (minimum time unit). These time units are defined as :

a = Pessimistic Value

b = Optimistic Value

m = Most Likely Value

These three time units not only provide the estimate of activity time, but also give a probability estimate for the completion for the entire network. Here, the estimated activity time is calculated using a weighted average of a minimum, maximum and most likely estimate.

Basic Assumptions The estimated time of an activity is calculated with certain assumptions, i.e. • The activity durations fit a Beta distribution, shown in Figure 4.10. In the assumption beta distribution is used to justify the approximation of mean μ and the standard deviation σ. In traditional PERT method, mean and standard deviation from a, b and m are calculated using following formula

$$\mu = \frac{a + 4m + b}{6}$$

$$\sigma = \frac{b \times a}{6}$$

• The variance is calculated by squaring the value of sigma, i.e. variance V = σ 2 .

• The range from a to b in the three-estimate approach covers 6 standard deviations. In view of this property, it is assumed that there are six standard deviation from a to b.

• The activity durations are statistically independent

• The critical path now means the path that has the longest expected value of total project time. The central limit theorem is used to justify this assumption

• The overall project duration has a normal distribution

Finally, using estimates of variability for the activity on the critical path, the probability of completing the project by particular times are estimated.

In network scheduling models, managers often want to reduce critical path time, even if it costs extra money to make the reduction. The two network methods explained above can be used to reduce critical path time. The process of decreasing the duration of a projector activity is commonly called crashing. There is value in crashing a project. In order to crash a project, we must crash one or more activities. Crashing activity costs money.

Deciding to crash an activity requires us to compare the cost of crashing that activity with the value of the resulting reduction in project length. This decision is frequently complicated by the fact that some negotiation may be required between the party that incurs the cost of crashing the activity (e.g., the contractor) and the party that enjoys the value of the crashed project (e.g., the customer).

An activity is typically crashed by applying more labour to it (e g., overtime or a second shift). We might typically expect that using second-shift labor could cost 1.5 times as much per hour as first-shift labor. We might expect third-shift labor to cost twice as much as first-shift labor. Consider an activity that can be done in six days if only first-shift labor is used and has a labor cost of $6,000. If we allow the use of second-shift labor and thus work two shifts per day, the activity can be done in three days for a cost of 3 * 1000 + 3 * l000 * 1.5 = 7,500. If third-shift labor is allowed, then the project can be done in two days by working three shifts per day and incurring a total of : 2 * 1000 + 2 * 1000 * 1.5 + 2 * 1000 * 2 = $ 9,000.

The basic assumption in minimum-cost scheduling is that there is a relationship between activity completion time and the cost of a project. On one hand, it costs money to expedite an activity; on the other, it costs money to sustain (or lengthen) the project. The costs associated with expediting activities are termed activity direct costs and add to the project direct cost. Some may be worker-related, such as overtime work, hiring more workers, and transferring workers from other jobs; others are resource-related, such as buying or leasing additional or more efficient equipment and drawing on additional support facilities.

The costs associated with sustaining the project are termed project indirect costs : Overhead, facilities, and resource opportunity costs, penalty costs or lost incentive payments. The goal of any scheduling problem is essentially to find the project duration that minimises sum of direct costs and indirect cost or in other words, finding the optimum point in a time-cost trade-off.

Prepare a CPM-type Network Diagram

For each activity this diagram should list

Normal Cost (NC)

The lowest expected activity costs. (These are the lesser of the cost figures shown under each node

Normal Time (NT)

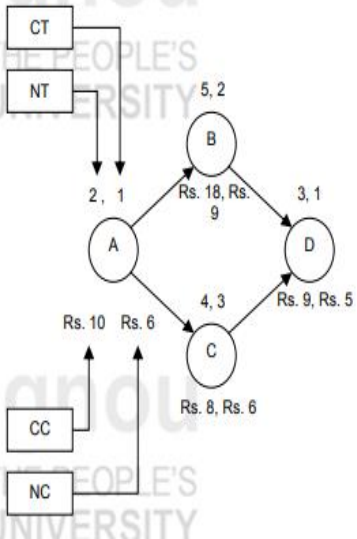
The time associated with each normal cost.

Crash Time (CT)

The shortest possible activity time.

Crash Cost (CC)

The cost associated with each crash time.



Resource Constraints for Single Project Scheduling

An implicit assumption made throughout this unit is that sufficient resources are available and only technological constraints are important for setting schedules. In most environments, however, resource constraints cannot be ignored. Some of the resources

that cannot be used infinitely are manpower, money, equipments and raw materials. As tradition project management techniques ignore these constraints, they are usually called : "feasible procedure for generating a non-feasible schedule".

UNIT-III

Project Management Information System (PMIS) – Introduction

A Project Management Information System (PMIS) is an organized system used to collect, store, process, and distribute information related to a project. It supports project managers and teams in planning, executing, monitoring, and closing projects effectively. PMIS integrates tools, techniques, and procedures to provide accurate and timely information regarding project schedules, costs, resources, risks, and performance. By improving communication and decision-making, PMIS helps ensure that project objectives are achieved within time, cost, and quality constraints.

Process of Project Management Information System (PMIS)

The process of a Project Management Information System (PMIS) involves a systematic flow of information to support effective project management. It begins with the collection of project-related data from various sources such as project plans, schedules, cost reports, and progress updates provided by team members. This data includes information on time, cost, resources, quality, and risks associated with the project.

Once the data is collected, it is processed and analyzed using project management tools and techniques. The processing stage converts raw data into meaningful information such as performance reports, variance analysis, forecasts, and dashboards. This analysis helps project managers evaluate project progress, identify deviations from the plan, and take corrective actions when required.

After processing, the information is stored in a centralized database for easy access and future reference. The stored information ensures data consistency, security, and availability throughout the project lifecycle. Finally, the processed information is distributed to relevant stakeholders in the form of reports, charts, and summaries. This timely distribution of information supports decision-making, improves communication, and helps in monitoring and controlling the project effectively.

Key Areas in the Scope of PMIS

- Project Planning and Scheduling: Creating work breakdown structures (WBS), defining tasks, setting milestones, and managing project timelines.
- Resource Management: Tracking availability, managing resource allocation, and tracking labor or material usage.
- Cost and Budget Control: Estimating costs, tracking expenses in real time, and identifying budget deviations.
- Document Control and Communication: Storing contracts, project documents, and facilitating communication among team members.
- Risk and Quality Management: Identifying risks, managing issue logs, and ensuring project deliverables meet quality standards.
- Monitoring and Reporting: Generating performance dashboards and status reports for stakeholders.

Functional Scope Across Project Lifecycle

- Initiation: Defining scope and initial planning.
- Execution/Monitoring: Tracking progress, managing workflows, and controlling performance.
- Closure: Archiving project data and assessing outcomes.

Planning of PMIS

Planning of PMIS involves identifying project information needs and determining how the system will support project objectives. It includes defining the type of data required, frequency of reporting, users of the system, and level of detail needed. During planning, decisions are made regarding software selection, hardware requirements, data security, and integration with existing systems. Proper planning ensures that PMIS is cost-effective, user-friendly, and aligned with organizational goals.

Design of PMIS

The design of PMIS focuses on structuring the system to efficiently handle project information. It involves designing data input methods, processing procedures, databases, and output reports. The system should be flexible, accurate, and easy to use. A well-designed PMIS ensures real-time access to information, supports decision-making, and allows customization according to project needs. Security and data integrity are also important considerations during the design phase.

Project Risk Management – Introduction

Project Risk Management is the systematic process of identifying, analyzing, and responding to risks that may affect a project. Risks are uncertain events or conditions that can have a positive or negative impact on project objectives. Effective risk management helps minimize threats and maximize opportunities, thereby increasing the chances of project success.

Risk Management

Risk management involves identifying potential risks, assessing their impact and likelihood, and developing strategies to manage them. It is a continuous process throughout the project lifecycle. Risk management ensures that uncertainties are handled proactively rather than reactively, reducing the chances of project failure.

Role of Risk Management in Overall Project Management

Risk management plays a crucial role in overall project management by helping project managers anticipate problems and take preventive actions. It supports better planning, cost control, scheduling, and resource management. By addressing risks early, project managers can avoid delays, cost overruns, and quality issues, leading to successful project outcomes.

Steps in Risk Management

The main steps in risk management include risk identification, risk analysis, risk response planning, and risk monitoring and control. These steps help in systematically managing risks and ensuring that appropriate actions are taken at the right time.

Risk Identification

Risk identification is the process of recognizing and documenting potential risks that may affect the project. Risks can arise from technical, financial, operational, environmental, or organizational factors. Tools such as brainstorming, checklists, expert judgment, and past project records are commonly used to identify risks.

Risk Analysis

Risk analysis involves evaluating the identified risks to determine their likelihood and impact on the project. It can be qualitative or quantitative. Qualitative analysis ranks risks based on priority, while quantitative analysis uses numerical data to assess the potential effect of risks on project objectives. This helps in focusing attention on the most critical risks.

Reducing Risks

Reducing risks involves developing strategies to minimize the probability or impact of negative risks. Common risk reduction strategies include risk avoidance, risk mitigation, risk transfer, and risk acceptance. Effective risk reduction improves project stability, enhances confidence among stakeholders, and contributes to achieving project goals successfully.

UNIT-IV

Project Performance Measurement and Evaluation – Introduction

Project performance measurement and evaluation is the process of assessing how well a project is progressing in relation to its planned objectives. It helps project managers determine whether the project is on schedule, within budget, and meeting quality standards. This process provides factual information for decision-making and ensures that corrective actions are taken when deviations occur. Effective performance measurement improves project control and increases the likelihood of project success.

Performance

Performance in project management refers to the degree to which project objectives such as time, cost, scope, and quality are achieved. It reflects how efficiently resources are utilized and how effectively project activities are executed. Good performance indicates that the project is progressing according to plan, while poor performance signals delays, cost overruns, or quality issues that need management attention.

Measurement

Measurement is the systematic process of collecting and analyzing data to assess project performance. It involves comparing actual project results with planned targets using performance indicators such as schedule variance, cost variance, and quality metrics. Measurement provides quantitative and qualitative information that helps project managers evaluate progress and make informed decisions.

Productivity

Productivity in project management refers to the efficiency with which resources such as labor, materials, and equipment are used to produce project outputs. High productivity

means achieving more output with fewer resources, while low productivity indicates inefficiency. Measuring productivity helps identify bottlenecks, improve work processes, and enhance overall project performance.

Project Performance Evaluation

Project performance evaluation is the systematic assessment of project outcomes and processes to determine the level of success achieved. It involves reviewing performance data, analyzing deviations, and identifying lessons learned. Evaluation may be conducted during the project or after its completion to assess effectiveness, efficiency, and stakeholder satisfaction. The results help improve future project planning and execution.

There are two types of project evaluation which help in gathering the information. They are:

- Formative evaluation
- Summative evaluation

Formative Evaluation

Formative evaluation involves gathering information during the early stages of the project or programme with a focus on finding out whether your efforts for gathering information are going in the right way as planned or facing obstacles or barriers. It is a structured way to provide the programme staff with additional feedback about their work. Formative evaluation is conducted for providing information to the programme staff that helps improve programme implementation. Some information may also be reported in summative evaluation of programme, for example, collecting continuous feedback from the participants in a programme in order to revise the programme as needed.

Summative Evaluation

Summative evaluation determines whether or not the programme's objectives have been met and looks at the learners' performance to see how well a group performed on a

learning task that utilized specific learning materials and methods. If the learners attained the objectives, then the instructional design was successful. Summative evaluators are also interested in user satisfaction and its possible outcomes. Outcomes may be either positive or negative. On the positive side, for example, students might improve their class attendance and develop a continuing interest in the topic. Negative outcomes include classroom management problems or a dislike for the subject matter.

Benefits of Performance Measurement and Evaluation

Performance measurement and evaluation provide several benefits, including improved project control, early identification of problems, better decision-making, and enhanced accountability. It helps in tracking progress, optimizing resource usage, and ensuring alignment with project objectives. Additionally, it promotes transparency and continuous improvement within the organization.

Challenges of Performance Measurement and Evaluation

Despite its benefits, performance measurement and evaluation face challenges such as difficulty in defining appropriate performance indicators, data inaccuracy, resistance from team members, and increased administrative effort. Measuring qualitative aspects like stakeholder satisfaction can also be complex. Overcoming these challenges requires clear metrics, reliable data systems, and strong management support.

Controlling the Projects

Project control is the process of monitoring project performance and taking corrective actions to ensure that project objectives are met. It involves tracking progress, comparing actual results with planned targets, and implementing changes when necessary. Effective project control helps manage risks, control costs, maintain schedules, and ensure quality throughout the project lifecycle.

Project Close Out

Project close out is the final phase of the project management process in which all project activities are completed and formally closed. It includes verifying deliverables, obtaining client acceptance, releasing resources, and documenting lessons learned. Proper project close out ensures that all contractual obligations are fulfilled and provides valuable insights for future projects.

Termination and Follow-Up

Project termination refers to the formal ending of a project after completion or due to reasons such as lack of funds, changes in strategy, or poor performance. Follow-up involves reviewing project outcomes after termination to evaluate long-term benefits and identify improvements. This process helps organizations learn from past projects and enhance future project management practices.

UNIT-V

Project Management Software- Introduction

Project management software is a digital tool designed to help individuals and teams plan, organize, execute, and track the progress of projects. These software applications offer a range of features and functionalities that streamline project-related tasks and facilitate collaboration among team members. By providing a centralized platform for project management activities, these tools enhance efficiency, communication, and coordination throughout the project lifecycle.

Key Features of Project Management Software:

- Task Management: Allows users to create, assign, and track tasks within a project, often including features like task prioritization, deadlines, and progress tracking.
- Collaboration Tools: Provides communication and collaboration features such as messaging, file sharing, discussion forums, and shared calendars to facilitate teamwork and information sharing.
- Scheduling and Planning: Offers tools for creating project schedules, setting milestones, and visualizing project timelines using Gantt charts or similar visual aids.
- Resource Management: Helps in managing project resources, including human resources, equipment, and materials, by providing visibility into resource allocation and availability.

- Document Management: Enables users to store and manage project-related documents, ensuring easy access and version control for important files.
- Reporting and Analytics: Provides reporting capabilities to generate various project reports and analytics to track project performance and make data-driven decisions.
- Integration with Other Tools: Often integrates with other business tools such as CRM systems, accounting software, or development tools to streamline workflows and data exchange.

Benefits of Using Project Management Software:

- Improved Organization: Centralizes project information, making it easier to organize and access important data.
- Enhanced Collaboration: Facilitates communication and collaboration among team members, especially in remote or distributed teams.
- Efficient Resource Utilization: Helps in optimizing resource allocation and utilization across projects.
- Better Monitoring and Control: Provides tools for monitoring project progress and identifying potential issues early on.
- Streamlined Workflows: Automates repetitive tasks and streamlines project workflows, saving time and reducing errors.

- Enhanced Reporting: Generates insightful reports and analytics to help in decision-making and performance evaluation.

Overall, project management software is a valuable tool for businesses and organizations looking to improve their project management processes, increase productivity, and achieve better project outcomes.

Advantages of using of Project Management Software.

- Centralized Information: Project management software provides a centralized location for all project-related information, including tasks, schedules, documents, and communication, making it easier for team members to access what they need.

- Improved Collaboration: These tools often include features for collaboration, such as shared calendars, task assignments, and file sharing, which can enhance teamwork and communication among project members, especially in remote or distributed teams.

- Efficient Communication: Project management software typically includes communication tools like messaging, email integration, and discussion forums, which facilitate efficient communication within the project team, reducing the need for lengthy email chains or scattered communication channels.

- Task Tracking and Monitoring: These tools often include features for tracking and monitoring project progress, such as Gantt charts, task lists, and milestones, allowing project managers to easily monitor the status of tasks and identify potential bottlenecks.

- Resource Management: Project management software can help with resource allocation and management by providing visibility into resource availability, workload balancing, and resource utilization, ensuring that resources are effectively utilized across projects.

- Risk Management: Many project management tools offer features for risk management, such as risk registers and risk assessment tools, which help project managers identify, assess, and mitigate project risks, improving overall project outcomes.

- Reporting and Analytics: These tools often include reporting and analytics capabilities, allowing project managers to generate various reports and analyze project data to gain insights into project performance and make informed decisions.

- Integration with Other Tools: Project management software can often integrate with other tools and systems, such as accounting software, CRM systems, or development tools, streamlining workflows and improving overall efficiency.

Following are common features available in most project management software:

- Task Management: This feature allows users to create, assign, and track tasks within a project.

- Gantt Charts: Gantt charts visually represent the project schedule, showing tasks, their start and end dates, and dependencies between tasks.

- Resource Management: This feature helps in managing and allocating resources (like team members, equipment, etc.) effectively across different tasks and projects.

- Collaboration Tools: Project management software often includes communication and collaboration tools like chat, file sharing, and commenting to facilitate teamwork.

- Reporting and Analytics: Project management tools provide reporting and analytics capabilities to track project progress, identify bottlenecks, and make data-driven decisions.

- Budgeting and Cost Management: Some software includes features for budgeting, cost estimation, and tracking expenses related to the project.

- Integration with Other Tools: Many project management tools offer integrations with other software and services like calendars, email clients, version control systems, etc., to streamline workflows.

- Customization and Scalability: Good project management software allows for customization to adapt to different project needs and scales with the organization's growth.

- Time Tracking: This feature allows team members to track the time spent on different tasks, which can be useful for billing purposes or analyzing productivity.

- Risk Management: Some project management tools include features for identifying, assessing, and managing risks associated with the project.