Unit -> 4

Software Evaluation and Costing

Project Evaluation:

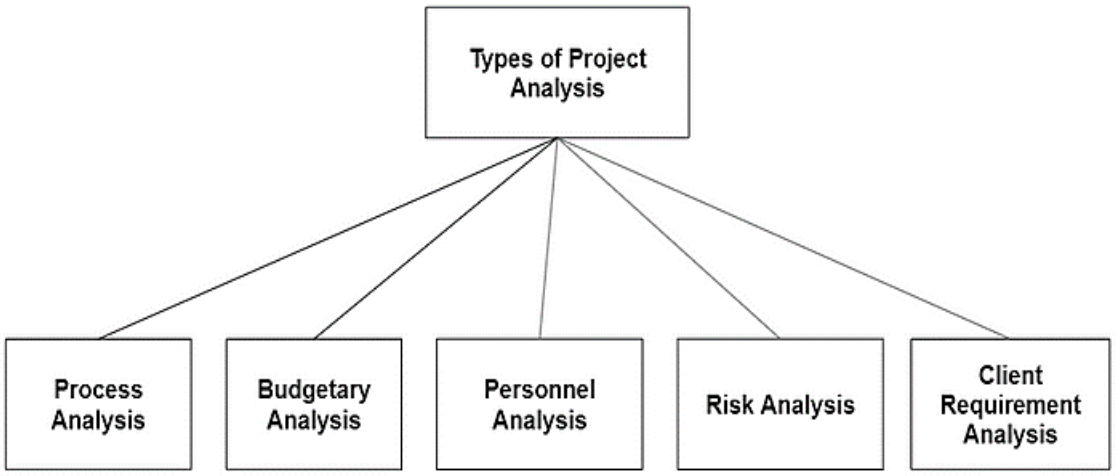
Project Evaluation is *deciding whether a project is worth undertaking or not.* What factors are important in selecting or rejecting a project proposal before the project is stared.

Project evaluation is the process of measuring the success of a project, program or portfolio done by gathering data about the project and using evaluation method to find improvement opportunities.

Why Project Evaluation?

- To decide if project is worth continuing before investing too much Time or Money.
- To choose the Best project among Multiple options based on return or turnover.

Types of Project Analysis:



What Project Evaluation involves?

1. Scope & Objectives
2. Cost & Budget
3. Schedule a& Timeline
4. Quality & Performance

5. Client Satisfaction
6. Risk Management

Benefits of Project Evaluation:	**Why importance of it?**
1. Enhance Decision Making	Identifying Success & failures
2. Reduce risk of Future failure	Improve processes
3. Improved Project Management Practices	Motivate & Reward Team
4. Gaining Trust of Client	Accountability

Who is responsible for Project Evaluation?

Senior Management, Project Manager, Coordinator, Team Leader

When is Project Evaluation Done?

Usually at the beginning of the project. (Step -> 0)

Assessment performed for Project Evaluation/ Accepting or Rejecting Project?

- Strategic Assessment
- Technical Assessment
- Economic Assessment (Cost- Benefit Analysis, Cash Flow Forecasting, Risk evaluation)

Strategic Assessment

Strategic Assessment is the *process of evaluating potential project* to ensure they align with the Organization's long term goals and objectives.

It's similar to checking Map and Compass before starting a journey to ensure right direction.

- Usually carried out by *Senior Management.*
- Determines whether project fits within the Organization long term strategy.
- Needs a strategic plan that clearly defines the objectives of the organization.

Example: *Facebook vs LinkedIn*: How do the types of projects they prefer align with their business?

Types of Strategic Assessment:

1. Portfolio Management:
   - A portfolio is a collection of Projects and programs managed together to achieve strategic objectives.
   - An Organization may have one or several portfolios to manage its projects.
   - Helps prioritize resources and Decide which project to accept or reject.
   - Suitable for projects developed for use in the Organization.
   - Provides an overview of all current and future projects
   - PMBOK: "Projects, programs, other portfolios, and operations managed as a group to achieve strategic objectives." [Project management body of Knowledge]

2. Program Management:
   - Coordinated management of a group of related projects to achieve a specific goal.
   - Project within a program are managed together to ensure the overall value is achieved.
   - When all Projects in a program are completed, the program ends.
   - Suitable for Projects developed for use within an organization.
   - PMBOK: "The application of knowledge and skills to achieve program objectives and to obtain benefits and control not available by managing related program components individually."
   - Achieve large goals, like increasing Market share.

- E.g.: Will the product increase the market share? By how much?

3. Project Portfolio Optimization:

Project Portfolio Optimization is the process of *selecting and managing a group of projects in a way that maximizes the overall value of the organization*. It ensures that resources (like time, money, and people) are allocated to the right projects that best align with the organization's strategic goals.

- To make sure organization invests in projects that provides the most value & align with long-term goals
- Balance projects in the Portfolio, consider risk, reward, and resources availability.
- Include time, money, and the skills of the people involved in the projects.

Steps in Project Portfolio Optimization:

a. Identify Strategic goals: Understand what the organization want to achieve in long run.
b. Evaluate Projects: assess project based on factors like: Cost, Risk, and goals.
c. Prioritize Projects: decide which projects are most important or urgent.
d. Balance Risk & Reward: portfolio includes mix of high-risk, high-reward project
e. Allocate Resources: assign available resources to the most critical projects

Importance of it:

- Maximize return on Investment by focusing on Project that provides most value.
- Reduce risks of Failure
- Efficient Resources usage.

Project Portfolio Optimization ensures that organizations choose and manage projects that best support their overall goals.

By balancing risk and reward, optimizing resources, and aligning with strategic priorities, it helps organizations achieve their objectives efficiently.

Technical Assessment

A Technical Assessment evaluates the technical feasibility of a project, ensuring that the project can be successfully developed, implemented, and maintained. It focuses on the technology, resources, risks, and compatibility needed to complete the project.

Characteristics:

1. Feasibility Analysis: If the project is technically possible.
2. Technical Resources Needed: Identifies resources required such as Hardware, software.
3. Technical Risks: potential risk related to technology such as software, bugs.
4. Compatibility: ensure project compatible with current systems.
5. Compliance: check if the project meets Technical standards or requirements.

Examples: System Upgrades, New technology adoption, Software development

Stages in Software Development for Technical Assessments:

1. Project Initiation: Select the most suitable technology and ensure the project is technically viable.
2. Design & Development: to address technical challenges and ensure the project remain on track.
3. Deployment & Testing: Software performs as expected and meets the requirements.

Why Technical Assessment Important?

- Ensure Feasibility
- Reduce Risks
- Improve Quality

Who Conducts the Assessment? = > Assessment Team

- **Software Architects:** Responsible for the overall technical design.
- **Developers:** Involved in coding and implementing solutions.
- **Technical Leads:** Oversee the development and ensure technical quality.
- **External Consultants:** Specialists in the chosen technology for expert opinions or validation.