



Q. What is a project?

- A project is a temporary endeavor undertaken to create a unique product, service, or result within defined scope, time and cost constraints.
- In context of software, a project involves planning, developing, testing and delivering software that meets user requirements.

Q. Why SPM? (importance)

- Ensures project completion on time, within budget, and with all requirements.
- Helps manage complexity of large projects.
- Allocates & uses resources effectively.
- Identify & control RISKS.
- Improves customer satisfaction.

④ Methods: → a specific process/technique used to complete a task

- it is a part of the project methodology
- practical tools / approaches that bring a methodology into action.

e.g. waterfall model for sys. development

⑤ Plans: → tactical documents created within a methodology framework.

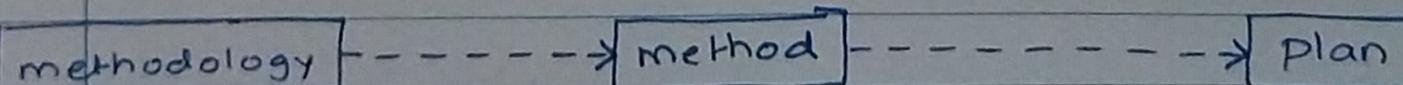
- provides guidance for a specific project
- answers questions like: what, who, when & how much

e.g. a plan detailing tasks, resources & time estimates.

⑥ Methodology: → strategic-level plan for managing IT projects.

- serves as a template for initiating, planning & developing a system.
- defines phases, deliverables, tools, etc of a project life cycle.

e.g. Agile, Scrum, etc. are methodologies



e.g. general guidebook for planning trip

mode of transport you use to get there

itinerary made for your trip



① Contract Management :

→ process of creating, executing & monitoring agreements b/w software developer org. and client.

Purpose → ensures that all parties meet their obligations regarding scope, cost, quality & deadlines.

Key Activities

- 1) Draft & negotiate contracts
- 2) Define deliverables, responsibilities & payment terms.
- 3) Handle disputes & risks
- 4) monitor compliance with agreed terms.

Importance

- *> Reduced misunderstandings
- *> Provides legal protection
- *> ensure smooth relationship with clients
- *> Helps in successfull delivery of project.

② Project Manager : team leader responsible for planning and executing the project. Main P.O.C. between client, team and stakeholders.

* management responsibilities :

- 1) Plan, organize and control : traditional managerial role, which develops initial phases of project.
- 2) Staffing : select & acquire project team ensuring right mix of tech, business & other skills.
- 3) communication & relationship building : among stakeholders, team members and clients.
- 4) Problem-solving : skilled problem-solver who comes up with a solution when project faces a problem.
- 5) Create workable project environment:
- 6) Lead the team:

③ * Software Project Management : Process of planning,

organising, leading, and controlling Software projects to ensure they are completed on time, within budget, and with desired quality.



Waterfall model

Traditional SPM

- sequential and linear approach.
- not so flexible. Hard to accomodate changes.
- processes, documentation & plans are main FOCUS
- Limited customer involvement most at start & end.
- Risks are identified at later phases of development.
- Best suited for well-defined and stable requirements.

e.g. waterfall model, V-model.

Agile

Modern SPM

- iterative and flexible approach.
- flexible, adapts easily to changes.
- working software & customer collaboration is the FOCUS
- continuous customer involvement
- Risks are addressed early and continuously.
- For dynamic and evolving requirements.

e.g. Agile, Scrum, Kanban, Spiral model.

* Business Case :

a document that provides an analysis of the organisational value, feasibility, cost, benefits, etc. of several proposed alternatives of project.

→ It provides senior management enough info to decide whether a project must be funded or not.

④ a business case shows how a s/w project can create business value for an organization.

↳ not only lists project idea.

↳ systematically analyses it from all perspectives.

Developing a Business Case :

Select core Team

Define Measurable organisational value (MOV)

Identify alternate approaches

compare & analyze with alternative approaches

Define Total benefits of ownership (TBO)

Define Total cost of ownership (TCO)

assess feasibility & risks of all appr.

Propose Best Approach



Activities covered by Software Project Management

- 1) Project Planning & Tracking →
 - identify all necessary tasks and schedule them.
 - track the completion of scheduled tasks to identify issues & risks.
- 2) Project Resource Management →
 - identifying both human & material resources.
 - imp to identify prior to start of project to avoid issues.
- 3) Scope Management →
 - process ensuring that all the work required for Project is included in the scope.
- 4) Estimation Management →
 - estimation of time & costs related to project. helps to set realistic expectations to the project.
- 5) Project Risk Management →
 - process of identifying and assessing risks that can potentially impact the project.
 - { schedule delays, cost overruns, scope creep }
- 6) Project Communication Management →
 - sending updates to stakeholders
 - communicating changes to team
 - ① maintain smooth information exchange.
- 7) Configuration Management →
 - process of managing dev team's work.
 - keep track of code changes and helps manager to track project progress.

- ④ Stakeholders : individuals or groups that have vested interest, or claim in project outcome
- ↓
[identified by a stakeholder analysis]
- They can have a +ve or -ve interest in project's success.
 - ① Project sponsor - providing resources and direction.
 - ① manager & team - responsible for the execution of project work.
 - ① Subject matter experts - users/clients who have knowledge in the field where project will be used.
 - ① Customers/users
 - ① Vendors/suppliers
 - ① Technical Experts - individuals who provide tech support for the projects.
 - ① Senior management - who make key decisions that choose what happens next

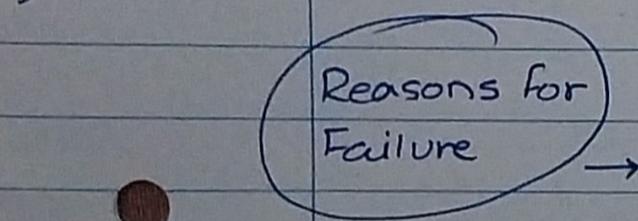


* Finding Project Success & Failure

5

- 1) Did software fulfill the requirements agreed upon?
- 2) Was project completed in given schedule?
- 3) Was project delivered within approved ~~project~~ cost?
- 4) Does s/w perform reliably, securely and w/o defects?
- 5) Are clients satisfied with software?
- 6) Do stakeholders formally accept the project?
- 7) MOV (measurable organisational value)

Did Project achieve its intended MOV?



- ① Poor planning
- ② having no clear understanding of business needs.
- ③ miscalculated time & budget
- ④ lack of experience
- ⑤ poor communication
- ⑥ improper testing
- ⑦ resistance to change.

* Characteristics of a Project:

- 1) Time frame: it must have definite beginning & end.
- 2) Purpose: it is undertaken to accomplish some tangible and of value to individual/organisation.
- 3) Ownership: a clear owner/sponsor must be present to provide funding and direction.
- 4) Resources: time, money, people and technology. act as constraints on project scope and schedule.
- 5) Roles: different individuals with diff. skill set are required for entire project to be success.
- 6) Risks & Assumptions: all have risks that need to be identified early using assumptions made on facts.
- 7) what organisational change will the project bring?
- 8) what interdependent tasks does a project have?



① Categorizing Software Projects:

6

1) Based on Project Goals

① Objective-driven Project

{ reduce cust. support by 15% }

→ aims to meet a specific goal, e.g. improving efficiency

→ can be achieved through multiple means.

② Product-based Projects

{ make a video game app }

→ aims to create a specific product with detailed requirements by client.

→ can only be achieved through set means.

2) Based on User Type

① Compulsory projects

{ a company's internal payroll system }

Systems that users have to use in order to perform a particular task w/o alternative options.

② Voluntary project

{ Starbucks app, users don't require it but have a choice }

→ Systems that users get a choice whether to use or not. Not using it can also help them with their tasks.

3) Based on Application & Purpose

① Information System

{ a project to develop a company's ERP system }
↓
(enterprise resource planner)

→ Projects focusing on managing & processing data to support business operations & data flow.

② Embedded System

{ software controlling a refrigerator }

→ Software project focuses on integration with a larger hardware.