Project Management

2UCC701

August 2022- December 2022

Module 1: **Introduction to Project management (03)**

CO1: Identify the phases of Projects

1.1 What is Project?

1.2 What is Project Management?

1.3 Need for Project Management?

1.4 Project Phases

1.5 Project Stakeholders

1.6 Key general Management Skills

Ref. Book: 1. John Nicholas, Herman Steyn, "Project Management for Engineers, Business & Technology"
2. PM BOK

1.1 What is Project

"A project is a temporary endeavor undertaken to create a unique product or a service"

- Projects are often implemented as a means of achieving an organization's strategic plan
- May involve a single person or thousands of people
- Duration may range from a few weeks to few years
- May involve a single unit in the organization or may cross organizational boundaries, as in a joint ventures and partnering

1.1 What is Project

Some examples of Project:

1. Developing a new product or a service
2. Developing & acquiring a new or modified information system
3. Constructing a building or facility
4. Implementing a new business procedure or process
5. Construction of pyramid
6. Completing Engineering degree
7. Marriage in a family
8. Educators teaching a Project Management course
9. Preparing a feasibility report for a transport system between two places

1.1 What is Project

Characteristics of a Project:

- **Temporary :** Definite starttime and endtime
  - Endtime: Objective achieved or NOT existing or NOT possible to achieve
  - Process of development is finite; end product may long lasting
  - Team: Created at the beginning and dissolved at the end
- **Unique Product, Service, or Result**
  - Something not done before or with varying challenges
- **Progressive Elaboration**
  - Proceeding in steps: continuing steadily by increments; worked out with care & detail: developed thoroughly

1.1 What is Project

Triple constraints of a Project:

Change in Cost, Time or Scope will affect Quality
Increase in Cost **MAY** Increase quality
Will increase in time will assure improvement in Quality ?

Recap of Lecture 1

What is Project?

Characteristics of a Project.

Triple constraints of a project

1.2 What is Project Management

Project management:

Application of knowledge, skills, tools, & techniques to project activities to meet project requirements.

Organization's approach to the management of ongoing projects.

Accomplished through the use of the processes such as : initiating, planning, executing, controlling, & closing.

Work typically involves:(may not be in the same sequence)

- Completing demands for: scope, cost, time, risk & quality
- Stakeholders with differing needs & Expectations
- Identified requirements

1.2 What is Project Management

Project management framework:

Understanding the key terms:

Stakeholders:The people who will be affected by implementation of the project
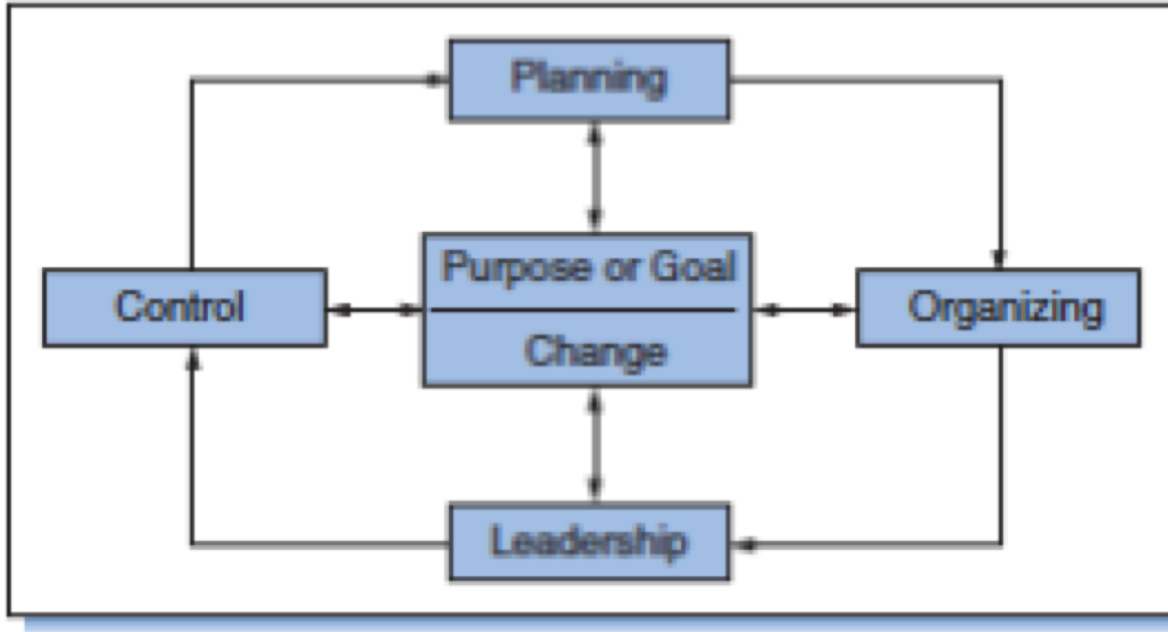
Scope of a project: What is to be Provided as deliverable

Environment of a project: The surrounding conditions that affect a project <u>BUT</u> not ar part of the project

Boundary of a project: The separation of the scope & the environment of a project.

Various project management processes:will be discussed in details later

1.2 What is Project Management

Functions of Management

Module 1: Introduction to Project Management

1.2 What is Project Management

Characteristics of <u>Project Management</u>:

1. A Project Manager (PM) heads the project organization & functions related to a project.
2. PM brings together all efforts needed to meet the project objectives
3. Project needs variety of skills and resources, project would be completed by different people from different skill areas inside and/or outside the organization, PM should take care of this integration
4. PM negotiates with individual functional managers and tries to achieve objectives in specified time, cost and quality
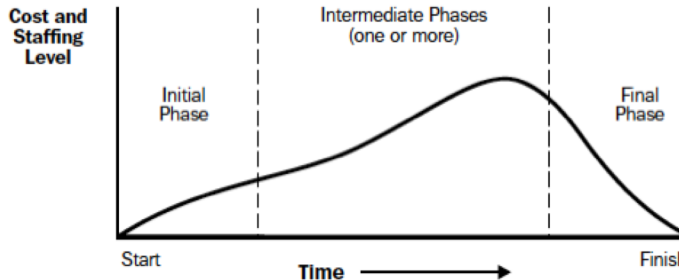
1.3 Need of Project Management

When to use Project Management:

1. **Unfamiliarity: Activities / objectives / Challenges are new**
2. **Magnitude of the Effort: substantially large in number (people, capital & equipment etc.)**
3. **Changing Environment: challenges due to changes**
4. **Interrelatedness: Complex relationships between various activities**
5. **Reputation of the organization: The final result may either generate lot of revenue or honour to the organization**

1.4 Project Phases

● Project Phases (Project Lifecycles)
   ○ Defines the start and the end of a project
   ○ Each project phase is marked by completion of one or more deliverables
   ○ The tangible deliverables could be a feasibility study, a detailed design, a working prototype
   ○ After completion of each phase, the deliverables & product performance to date are reviewed (called phase exits, stage gates or kill points) to decide whether the project should continue into the next phase and detect & correct cost effectiveness
   ○ For each phase, a set of defined deliverables are designed explicitly mentioning desired level of management control

Module 1: Introduction to Project Management

Recap
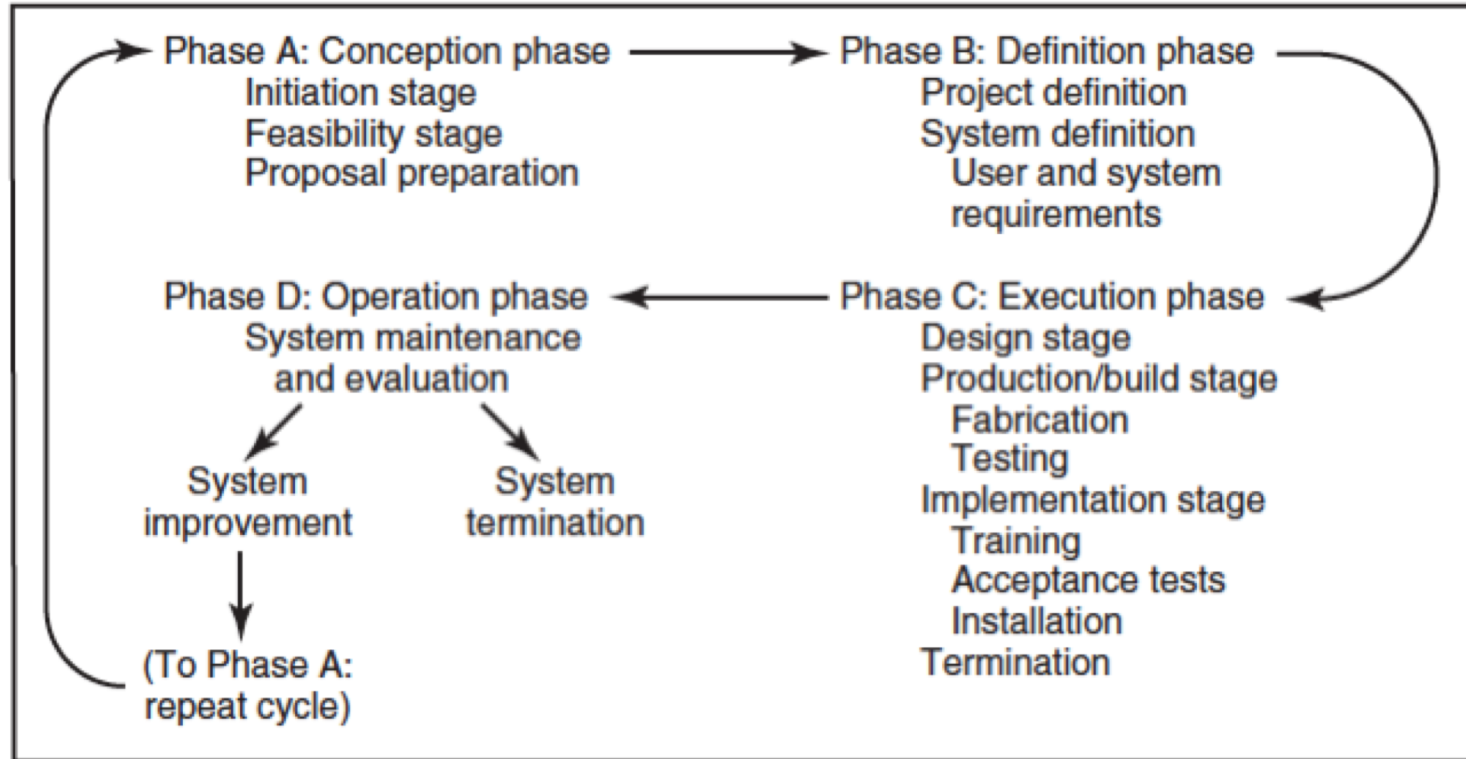
What is Project Management

Need of Project Management

Project Phases

1.4 Project Phases

- Project Phases (Project Lifecycles)
  - Conception Phase
  - Definition Phase
  - Execution Phase

- System development Phases (System Lifecycle)
  - Conception Phase
  - Definition Phase
  - Execution Phase
  - Operation Phase

1.4 System Phases

Phase A: Conception phase → Phase B: Definition phase
   Initiation stage   Project definition
   Feasibility stage   System definition
   Proposal preparation   User and system
                                 requirements

Phase D: Operation phase ← Phase C: Execution phase
   System maintenance   Design stage
   and evaluation   Production/build stage
                                     Fabrication
   System   System   Testing
   improvement   termination   Implementation stage
                                     Training
                                     Acceptance tests
                                     Installation
(To Phase A: Termination
repeat cycle)

Feasibility Study/ Types

Performed by either by the sponsor or by solution providing organization:

- Technical Feasibility

- Operational Feasibility

- Economic Feasibility

- Legal Feasibility

- Schedule Feasibility

1.4 Project Phases

Phase Name	Activities	Deliverable
Concept	Initiation, Feasibility study, Project proposal preparation	Feasibility Report Project Proposal
Definition	Preparation of design document	Detail Design Document Project Execution Plan
Execution	Production & Building , Fabrication , Testing, Training , Acceptance & Installation	Finished Product
Operation		

1.4 Project Phases
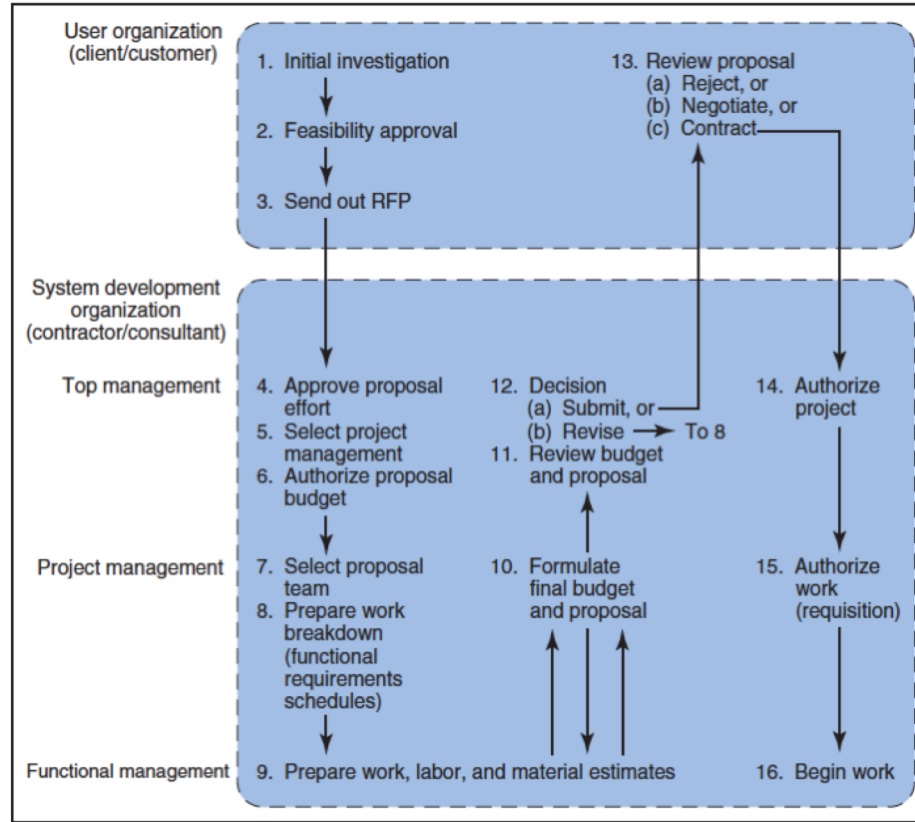
1.5 Project Stakeholders

- Individuals & Organizations that are actively involved in the project
- Whose interests may be positively or negatively affected as the result of project execution or project completion
- May also exert influence over the project & the results

1.5 Project Stakeholders

Key Stakeholders

- **Project Manager:** individual responsible for managing the project
- **Customer:** the individual or organisation that will use the project's products
- **Performing Organisation:** The enterprise whose employees are most directly involved in doing the work of the project
- **Project Team members:** the group that is performing the work of the project
- **Sponsor:** the individual or group within or external to the organization that provides the financial resources, in cash or in kind, for the project

1.6 Key General Management Skills

Project Integration Management
Project Plan Development
Project Plan Execution
Integrated Change Control

Project Scope Management
Initiation
Scope Planning
Scope Definition
Scope Verification
Scope Change Control

Project Time Management
Activity Definition
Activity Sequencing
Activity Duration Estimating
Schedule Development
Schedule Control

Project Cost Management
Resource Planning
Cost Estimation
Cost Budgeting
Cost Control

Project Quality Management
Quality Planning
Quality Assurance
Quality Control

Project Human Resource Management
Organizational Planning
Staff Acquisition
Team Development

Project Communication Management
Communication Planning
Information Distribution
Performance Reporting
Administrative Disclosure

Project Risk Management
Risk Management Planning
Risk Identification
Qualitative Risk Analysis
Quantitative Risk Analysis
Risk Response Planning Risk
Monitoring & Control

Project Procurement Management
Procurement Planning
Solicitation Planning
Solicitation
Source Selection
Contract Administration
Contract Closeout

1.6 Key General Management Skills

- **Key general Management Skills**

  - Project manager is the sole responsible for the success or failure of a project

  - Involved in the project right from the inception till the handing over

  - Must be at least **Jack of All Trades**

  - Technical & Managerial skills are a **Must**

Some Examples of Project

Construction of a Bridge

Covid Vaccination

Some review questions:

- Differentiate between a Project and Operations.
- Define following terms related to a project:
  - Scope, Statement of Work, Constraints, Assumptions, Boundary of a Project, Environment of a project, Stakeholders, Tools used in a Project, Techniques used in a project
- What are the different types of projects?
- What are triple constraints of a project ?
- What is the "sacred cow model" in project management?