

# CSE 495: IT Project Management and Entrepreneurship

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# Fundamental Project Management Concepts

- Definition of a **Project**: A project is a temporary endeavour (with a beginning and end date) undertaken to create a unique product, service, or result. (*Project Management Body of Knowledge – PMBOK Guide*).
- **Project Examples (Temporary & Unique)**
  - Developing a **new mobile app**
  - Constructing a **shopping mall**
  - Organizing a **college fest**
  - Writing a **final year thesis**
  - Launching a **new product**

# **Non-Project Examples (Ongoing / Routine Work)**

- **Daily customer support service**
- **Regular office administration**
- **Monthly salary processing**
- **Daily data entry work**
- **Running a factory production line**
- **Routine website maintenance**

# Project vs. Non-Project

Project	Non-Project
Temporary	Ongoing
Unique outcome	Repetitive work
Has deadline	No fixed end
One-time goal	Continuous process

# Stakeholders

- Stakeholders are individuals, groups, or organizations that have an interest in or are affected by a project's outcome.
- **Examples of Stakeholders**
  - Project sponsor
  - Project manager
  - Clients / customers
  - End users
  - Investors
  - Suppliers / vendors
  - Government authorities
  - Community / society

# Types of Stakeholders and Their Importance

## Internal Stakeholders

- Project team
- Managers
- Employees

## External Stakeholders

- Customers
- Suppliers
- Government
- Public

## Why Stakeholders are Important

- Influence project success
- Provide resources & support
- Give feedback
- Approve deliverables

# Project Management

- Project management is both a science and an art.
- The science is the systematic process of managing project work efficiently and effectively to deliver planned results.
  - This includes tailoring efforts to meet the needs of the project and using the appropriate processes and tools to accomplish the work.
- The art of project management relates to how a project manager uses skills such as influencing, organizing, strategizing, and other interpersonal and team skills.

# Project Management Approaches

## Traditional Approach (Waterfall)

- Sequential phases:  
*Requirement* → *Design* →  
*Development* → *Testing* →  
*Deployment*
- Best when requirements are **clear and fixed**
- Less flexible to changes

**Example:** Banking software system

## Agile Approach

- Flexible and iterative
- Continuous customer feedback
- Delivers work in small increments
- **Example:** Software development



# Project Management Approaches..

## Scrum (Agile Framework)

- Work divided into **sprints (one to four weeks)**
- Each sprint delivers a draft, prototype, or workable versions of the final deliverable.
- Daily stand-up meetings
- Roles: Product Owner, Scrum Master, Team

## Kanban

- Visual workflow using boards
- A Kanban board with “To Do,” “Doing,” and “Done” lanes is a great way to start visualizing work.
- Focus on continuous delivery
- Limits work in progress
- Example: IT support team

## Hybrid Approach

- Combines **Waterfall + Agile**
- Planning in waterfall, execution in agile
- Used in large organizations
- Flexible yet structured

# Approaches Best For

<b>Waterfall</b>	<b>Fixed scope projects</b>
Agile	Changing requirements
Scrum	Software teams
Kanban	Continuous work
Hybrid	Complex projects

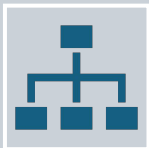
# Managing Small and Large Projects



Big differences in management perspectives with predictive approaches and those that use agile or hybrid methods.



On a small project, you may walk over to someone you need to speak to about an issue.



On a large project you may have spent weeks **planning communications**. You have to figure out who should be involved in solving an issue, their locations, contact information and communication preferences.

# Program Management

- Program management is the coordinated management of **multiple related projects** to achieve **strategic business objectives** and benefits that would not be realized by managing projects individually.
- **Key Points**
  - Focuses on **strategic alignment** rather than individual project deliverables
  - Ensures **resources, risks, and interdependencies** are managed across projects
  - Monitors **overall progress, benefits, and outcomes**

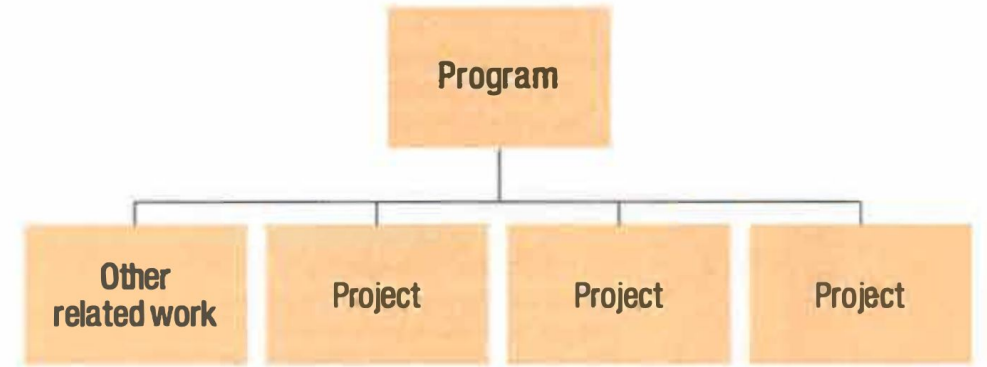


FIGURE 2.1 *Program management*

# Project Vs Program

Aspect	Project	Program
Scope	Specific deliverable	Multiple related projects
Objective	Complete on time, within budget	Achieve strategic business benefits
Duration	Temporary	Longer-term, can span years
Focus	Output	Outcome / Benefits
Management	Project manager	Program manager

# Portfolio Management

- **Portfolio Management** is the centralized management of one or more portfolios, which includes identifying, prioritizing, authorizing, managing, and controlling projects, programs, and other related work to achieve specific **strategic business objectives**.
- **Purpose**
  - Align projects and programs with organizational **strategic goals**.
  - Ensure **optimal use of resources** across the organization.
  - Balance risk, value, and investment in project.
- **Key Functions**
  - **Project & Program Selection** – Choose initiatives that best support strategic goals.
  - **Prioritization** – Rank work based on value, risk, and resource requirements.
  - **Resource Allocation** – Assign people, money, and tools where they're most effective.
  - **Monitoring & Control** – Track performance and adjust decisions as needed.

# Benefits of Portfolio Management

- Ensures **strategic alignment** of work.
- Improves **decision-making** and prioritization.
- Enhances **resource utilization** and risk control.
- Increases **organizational performance** and business value.

Portfolio vs Program vs Project

Level	Focus	Scope
Project	Deliver specific output	Single, temporary initiative
Program	Manage related projects	Multiple connected projects
Portfolio	Align to <b>strategy</b>	All projects & programs of an organization

# Organizational Project Management

- Organizational Project Management (OPM) is a **structured approach** in which an organization aligns its **projects, programs, and portfolios** with its **strategic objectives** to achieve business goals and maximize value.
- **Key Components of OPM**
  - 1. Project Management** – Managing individual projects to achieve specific deliverables.
  - 2. Program Management** – Coordinating related projects to achieve strategic benefits.
  - 3. Portfolio Management** – Selecting and managing projects/programs to align with organizational strategy.



# Organizational Project Management

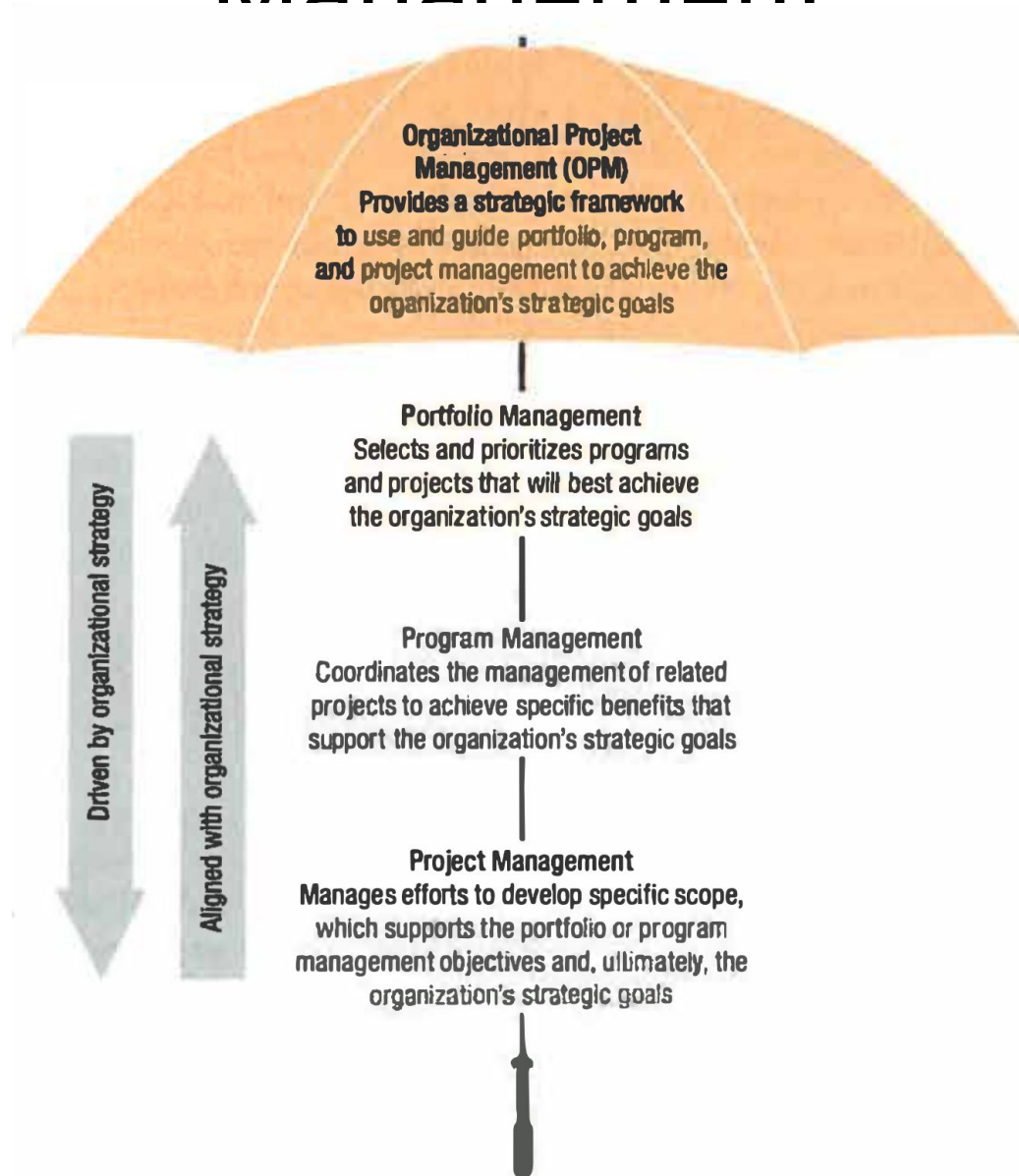


FIGURE 2.3 *Organizational project management*

# Objectives and Benefits of OPM

- **Objectives of OPM**

- Align all initiatives with **strategic goals**
- Ensure **consistent governance and standards**
- Maximize **value from projects and programs**
- Optimize **resource utilization** across the organization

- **Benefits of OPM**

- Better **decision-making**
- Stronger **strategic alignment**
- Improved **efficiency and productivity**
- Enhanced **risk management**
- Increased **business value realization**

# Project Management Office (PMO)

- A **Project Management Office (PMO)** is a centralized department within an organization that **defines and maintains project management standards, processes, and governance** to ensure successful project delivery and alignment with strategic objectives.
- **Key Roles of PMO**
  - 1. Standardization** – Establishes project management processes, templates, and best practices.
  - 2. Governance** – Monitors compliance, risks, and quality of projects.
  - 3. Resource Management** – Allocates resources across multiple projects.
  - 4. Support & Training** – Provides guidance, mentoring, and project management tools.
  - 5. Reporting & Metrics** – Tracks project performance and reports to executives.

# Types of PMO

Type	Focus
<b>Supportive PMO</b>	Provides templates, guidance, and training
<b>Controlling PMO</b>	Enforces standards, compliance, and methodology
<b>Directive PMO</b>	Directly manages projects and assigns project managers





# Benefits of PMO

- Improves **project success rates**
- Ensures **alignment with business strategy**
- Optimizes **resource utilization**
- Enhances **risk management and reporting**
- Provides **consistency across projects**
- **Prioritizes** projects.
- Achieves organization Strategy
- Manages the interdependencies among project, program, and portfolios.

# Exercise 2.1

- **Test yourself!**

Read the description of the **PMO** (Project Management Office), then determine whether it is likely to be:



**Supportive**



**Controlling**



**Directive**

— or **a combination** of these types.

- Write your answers in your sheet.

# Exercise 2.1

- “Manages all projects throughout the organization.”
- “Provides support and guidance; requires all projects within the organization to use designated project management software and templates, but doesn’t otherwise exert control over the project.”
- “Coordinates all projects within the organization.”
- “Recommends common terminology, templates, reporting, and procedures to be used on projects throughout the organization to promote consistency and streamline efforts.”
- “Appoints project manager.”
- “Prioritizes projects.”
- “Has the highest level of control over projects.”

# How to Answer

- For each description, you ask yourself:
  - **Supportive** → Offers templates, advice, guidance; minimal control
  - **Controlling** → Requires compliance with standards, tools, and reporting
  - **Directive** → **Directly manages** the projects and assigns project managers
- Some descriptions may show **mixed characteristics** (e.g., controlling + directive) depending on how much authority the PMO has.



# References

1. Rita Mulcahy's PMP Exam Preparation, 10th Edition.
2. An Introduction to Project Management, Kathy Schwalbe, 6th edition.