

# **INFO6007 NOTE**

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## Context:

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<b>Week 01:</b> Introduction to IT Project Management
<b>Week 02:</b> IT Project Methods and Requirements Gathering Strategies
<b>Week 03:</b> Scope and Schedule Management: Tools, Techniques, and Real-world Case Study
<b>Week 04:</b> IT Project Cost Management: Tools, Techniques, and Real-world Case Study
<b>Week 05:</b> IT Project Quality Management: Tools, Techniques, and Real-world Case Study
<b>Week 06:</b> IT Project Resource Management: Tools, Techniques, and Real-world Case Study
<b>Week 07:</b> IT Project Risk Management: Tools, Techniques, and Real-world Case Study
<b>Week 08:</b> Procurement Management: Tools, Techniques, and Real-world Case Study
<b>Week 09:</b> IT Project Leadership, Governance, and Alignment
<b>Week 10:</b> Integration Management
<b>Week 11:</b> IT Service Management Functions and Processes 1
<b>Week 12:</b> IT Service Management Functions and Processes 2
<b>Week 13:</b> Course Review

# week 01: Introduction

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**What is/Define a Project?:** A project is “a temporary effort/work undertaken to create a unique product, service, or result. A project is a temporary endeavour producing a unique product or service

## Key characteristics of a Project:

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- **Temporary:** It has a clear start and end point. It is not an ongoing operation.
- **Unique outcome:** The goal is to produce something new, whether it is a product, service, event, etc.
- **Specific objectives:** Projects aim to meet particular goals, requirements, or solve a problem.
- **Constraints:** Projects work within limitations of scope, time, cost and resources.

## Why IT Projects Are Inherently Difficult/distinguish from other:

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IT projects operate in environments of uncertainty, change, and hidden complexity. – Evolving requirements – Integration complexity – Decisions under incomplete information. As a result, successful IT projects depend not only on technical skill, but on professional judgement and the ability to adapt.

## Why IT Projects Fail Despite Good Technology

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While IT projects are inherently complex, many failures occur not because of complexity itself, but because of how we manage that complexity. Across industries, many IT projects struggle due to recurring patterns: – Poorly defined or changing requirements – Underestimated complexity and dependencies – Unrealistic cost and schedule expectations – Misalignment between business and technical teams – Weak governance and stakeholder engagement. These issues are rarely caused by technology alone.

Project management is the structured process of planning, organising, leading, and controlling resources to achieve specific project objectives within defined constraints.

**Key elements of Project Management are:** - Scope - Time - Cost - Quality - Risk - Communication - Resources

## Why is IT Project Management critical?

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- IT projects are often complex, high-stakes, and directly tied to an organization's strategic goals.
- **Key reasons:** - Aligns technology with Business goals - Delivers value on time and within budget - Manages Complexity across teams - Avoids scope creep and missed deadlines - Reduces risks and improves accountability - Improves Communication - Handles change effectively.

What happens without IT Project Management? • Scope Creep • Miscommunication • Missed deadlines • Budget blowouts • Technical Failures • Stakeholder dissatisfaction.

## Skills required for Project Management

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- **Core PM skills:** - Planning & Scheduling, Scope management, Risk management, Budgeting & cost control, Quality management and Documentation and Reporting.
- **Soft skills:** - Communication, Leadership, Conflict resolution, Negotiation, Decision making,

## and Adaptability

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- **Technical skills:** - Understanding of PM methodologies, Tools like Jira, Trello, or Asana, Reporting, etc.
- **Strategic skills:** - Stakeholder management, Business Acumen, and Change management.

## Triple Constraints of Project Management

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- The Triple Constraints refer to the three key factors that define and shape any project.
- **Scope:** - The work required to complete the project. - Includes features, functions, tasks, and deliverables. - Changes in scope (also called scope creep) can affect time and cost.
- **Time:** - The schedule or duration of the project.- Includes deadlines, milestones, and timelines.- Delays often mean increased costs or reduced scope.
- **Cost:** - The budget for completing the project. - Includes resources, labor, tools, software, and infrastructure. - Going over budget may require reducing scope or extending deadlines.

Triple Constraints of Project Management contd.

## If Scope increases Time and/or Cost must also increase

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If Time is reduced Cost must increase or Scope must decrease

## If Budget is reduced Scope must reduce

### Project Success

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- Project Success refers to how well a project meets or exceeds its defined objectives, expectations, and stakeholder satisfaction across several key dimensions.
- Success is no longer just about "on time, on budget", it's also about delivering value.
- **Key dimensions of Project success:**

### Time, Cost, Scope, Quality

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Stakeholder Satisfaction, Business Value, Team Performance, Sustainability

### The 3 tiers

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- There are 3 levels to management.
- Project Management → Program Management → Portfolio Management
- These three tiers represent increasing levels of strategic oversight and coordination in managing work across an organization.

A Project Management Framework is a structured approach that defines how projects are planned, executed, monitored, and completed. It provides guidelines, processes, tools, and best practices to ensure successful project delivery.

Why use a Framework? • Ensures consistency across projects • Reduces risk and increases predictability • Improves communication and accountability • Supports decision-making with structured processes • Aligns with organizational goals and standards

# Week 02: PM Methodologies and Requirement Gathering

## What is IT Project Lifecycle

- The Project Lifecycle is the structured sequence of phases a project goes through from start to finish.

## Project Lifecycle – The different phases

- Initiation
  - **Purpose:** Define the project at a high level and evaluate its feasibility.
  - **Output:** Project is approved and formally initiated.
- Planning
  - **Purpose:** Build a comprehensive plan that guides the team.
  - **Output:** Approved Project Management Plan
- Execution
  - **Purpose:** Perform the actual work according to the plan.
  - **Output:** Project deliverables are developed and reviewed
- Monitoring & Controlling
  - **Purpose:** Track performance and make adjustments as needed.
  - **Output:** Status reports, updates, and course corrections
- Closure
  - **Purpose:** Wrap up the project, deliver results, and reflect.
  - **Output:** Final project report, lessons learned, client sign-off
- Project Management Methodologies are structured approaches or systems of practices used to plan, execute, and manage projects efficiently.
- They provide a repeatable framework that guides teams on how to deliver work successfully from start to finish.
- Why is it important?
  - Ensure consistency and predictability
  - Improve team collaboration
  - Manage risks, time, and costs
  - Align work with business goals

## Waterfall Project Management

- The Waterfall Model is a linear and sequential project management methodology where each phase must be completed before the next begins.
- It is one of the earliest and most traditional approaches, often used in engineering, construction, and structured IT projects

## Phases of the waterfall model

- Requirements Gathering - All requirements of the project are collected up-front and no changes are expected once this phase ends.
- Systems Design - Create a high level and detailed design of the system. This defines the architecture, components, data models, etc.
- Implementation (Coding) - Developers write code based on the design documents and the development is done usually in modules or components.
- Testing – System is tested for defects, bugs, and performance. This typically include unit testing, integration testing, and system testing.
- Deployment - Product is delivered to users or moved to a production environment.
- Maintenance – Fix issues, update software, and provide support after deployment.

### Advantages

- Simple to understand and use
- Clear milestones and documentation
- Easier to manage for projects with fixed scope and stable requirements
- Ideal for government, construction, or compliance-heavy projects

### Disadvantages

- Not flexible to changes once development begins
- Difficult to go back to a previous phase