

Introduction to Information Technology

Project Management

Introduction to Information Technology (IT) Project Management
Key concepts, processes, and best practices for managing IT projects effectively.

1. What Is IT Project Management?

Aspect	Description
Definition	The discipline of planning, executing, monitoring, and closing projects that deliver technology-based solutions (software, hardware, networks, services, etc.).
Goal	Meet stakeholder expectations on scope, schedule, cost, quality, and risk while delivering value to the organization.
Typical Deliverables	Applications, system integrations, infrastructure upgrades, cloud migrations, data analytics platforms, cybersecurity implementations, etc.
Stakeholders	Project sponsor, product owner, end users, development/operations teams, vendors, regulatory bodies, and the project manager.

2. Project Management Frameworks Used in IT

Framework	Core Elements	Typical Use Cases
PMBOK® (Project Management Body of Knowledge)	5 Process Groups (Initiate, Plan, Execute, Monitor & Control, Close) + 10 Knowledge Areas (Scope, Schedule, Cost, Quality, Resource, Communication, Risk, Procurement, Stakeholder, Integration).	Large, complex, multi-disciplinary IT programs; organizations that require formal documentation.
PRINCE2	7 Principles, 7 Themes, 7 Processes; focus on controlled stages and defined roles.	Government or regulated environments; projects needing strict stage-gate reviews.
Agile (Scrum, Kanban, SAFe)	Iterative delivery, product backlog, sprints, daily stand-ups, continuous improvement.	Software development, product innovation, fast-changing requirements.

Introduction to Information Technology

Framework

Core Elements

Typical Use Cases

Project Management		
Hybrid (Waterfall, Scrum, Agile, PMBOK)	Combines predictive planning for architecture/infrastructure with iterative delivery for software components.	Enterprises transitioning from traditional to agile, or projects with both hardware and software components.

3. Project Lifecycle in IT

1. Initiation

- Define business need & project charter.
- Identify sponsor, key stakeholders, and high-level objectives.
- Perform feasibility analysis (technical, financial, operational).

2. Planning

- **Scope Management** – create a Work Breakdown Structure (WBS) and a detailed scope statement.
- **Schedule Management** – develop a Gantt chart or sprint roadmap; identify critical path.
- **Cost Management** – estimate budgets, set cost baselines, define funding sources.
- **Quality Management** – define acceptance criteria, testing strategies, and quality metrics.
- **Resource Management** – allocate staff, hardware, software, and external vendors.
- **Risk Management** – identify risks, assess probability/impact, develop mitigation plans.
- **Communication Management** – stakeholder register, communication plan, reporting cadence.
- **Procurement Management** – contracts, SLAs, vendor selection.

3. Execution

- Mobilize the project team and kick-off.
- Implement the project plan: develop code, configure hardware, set up environments.
- Perform quality assurance (code reviews, automated testing, configuration audits).
- Manage changes through a formal Change Control Board (CCB) or backlog grooming.

Introduction to Information Technology

4. Monitoring & Controlling

Project Management

- Track progress against scope, schedule, and cost baselines (Earned Value Management, burn?down charts).
- Update risk register; execute mitigation actions.
- Conduct status meetings, issue logs, and stakeholder reviews.
- Adjust plans (re?baseline) when necessary.

5. Closing

- Verify deliverables meet acceptance criteria; obtain formal sign?off.
- Conduct