

Project Management

Introduction to Project Management

Learning Objectives

- Understand the growing need for better project management, especially for information technology (IT) projects
- Explain what a project is, provide examples of IT projects, list various attributes of projects, and describe the triple constraint of project management
- Describe project management and discuss key elements of the project management framework, including project stakeholders, the project management knowledge areas and project success indicators

Motivation for Studying Information Technology (IT) Project Management

- IT Projects have a terrible track record, as described in the What Went Wrong?
- A 1995 Standish Group study (CHAOS) found that only 16.2% of IT projects were successful in meeting scope, time, and cost goals; over 31% of IT projects were canceled before completion
- A PricewaterhouseCoopers study found that overall half of all projects fail and only 2.5% of corporations consistently meet their targets for scope, time, and cost goals for all types of project.

Advantages of Using Formal Project Management

- Better control of financial, physical, and human resources
- Improved customer relations
- Shorter development times
- Lower costs
- Higher quality and increased reliability
- Higher profit margins
- Improved productivity
- Better internal coordination
- Higher worker morale

What Is a Project?

- A **project** is “a temporary endeavor undertaken to create a unique product, service, or result”
- Projects end when their objectives have been reached or the project has been terminated
- Projects can be large or small and take a short or long time to complete

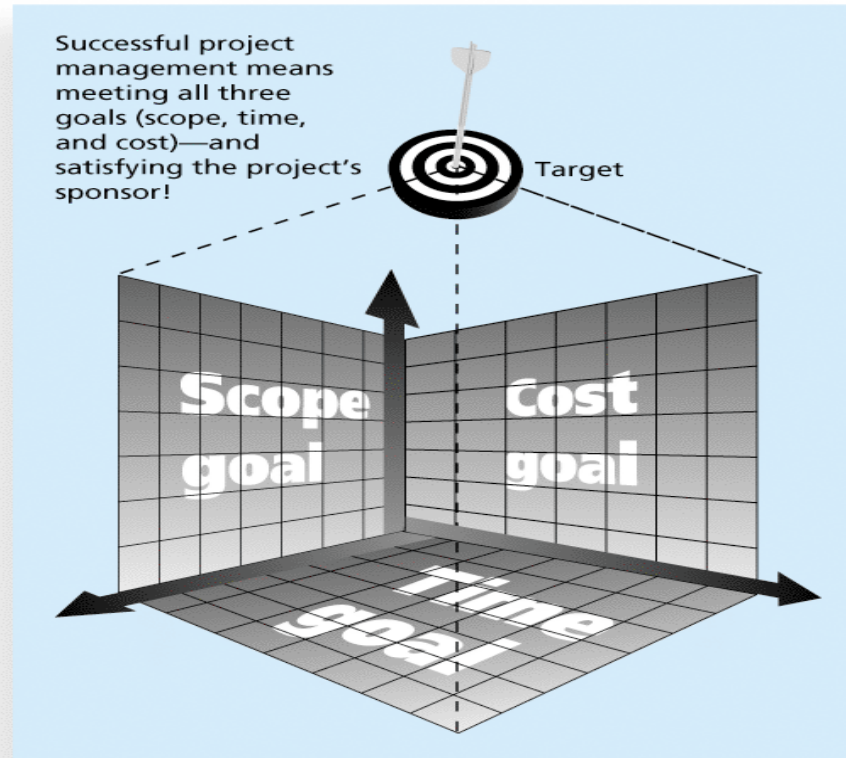
Project Attributes

- A project
 - has a **unique purpose**
 - is **temporary**
 - requires **resources**, often from various areas
 - should have a primary **customer** and a **sponsor**
 - The **project sponsor** usually provides the direction and funding for the project
 - involves uncertainty

Project and Program Managers

- **Project managers** work with project sponsors, project team, and other people involved in a project to meet project goals
- **Program:** group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually
- Program managers oversee **programs**; often act as bosses for project managers

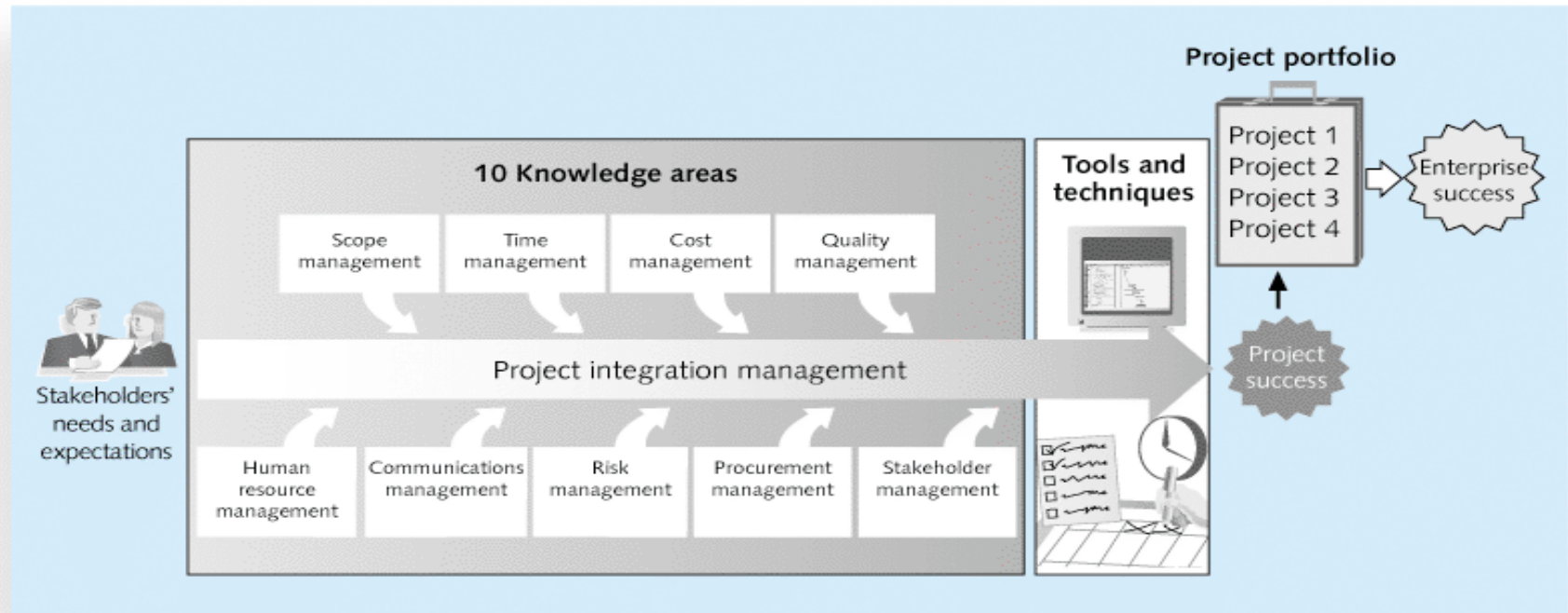
The Triple Constraint of Project Management



What is Project Management?

- **Project management** is “the application of knowledge, skills, tools and techniques to project activities to meet project requirements”
- Project managers strive to meet the **triple constraint** (project **scope**, **time**, and **cost** goals) and also facilitate the entire process to meet the needs and expectations of project stakeholders

Project Management Framework



Key Knowledge areas describe the key competencies that project managers must develop. Project managers must have knowledge and skills in all 10 knowledge areas

Project Stakeholders

- **Stakeholders** are the people involved in or affected by project activities
- Stakeholders include
 - the project sponsor
 - the project manager
 - the project team
 - support staff (Technical staff)
 - customers
 - suppliers

Project Success Indicators

- There are several ways to define project success:
 - The project met **scope**, **time**, and **cost** goals
 - The project satisfied the customer/sponsor
 - The results of the project met its main objective
 - providing a good return on investment

Requirements for Projects to Succeed

1. User involvement
2. Executive support
3. Clear business objectives
4. Emotional maturity
5. Optimizing scope
6. Agile process
7. Project management expertise
8. Skilled resources
9. Execution
10. Tools and infrastructure

What the Winners Do...

- Recent research findings show that companies that excel in project delivery capability:
 - Use an **integrated project management** toolbox (i.e. use standard/advanced PM tools)
 - Grow **project leaders**, emphasizing business and soft skills
 - Develop a streamlined project **delivery process**
 - Measure project progress using metrics, like **customer satisfaction** or **return on investment**

Program and Project Portfolio Management

- A **program** is “a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually”
- A **program manager** provides leadership and direction for the project managers heading the projects within the program
- Examples of common programs in the IT field include infrastructure, applications development, and user support

Project Portfolio Management

- **What is Portfolio Management?** A portfolio is a collection of projects, programs sub portfolios, and operations that are grouped together to facilitate effective management of that work to meet strategic business objectives.
- Organizations manage their portfolios based on **specific goals**.
- senior management teams typically take on the responsibility of portfolio management for any organization.
- Portfolio management entails managing a collection of programs and projects in the portfolio.

Project Portfolio Management

- This includes weighing the value of each project, or potential project, against the portfolio's **strategic objectives**.
- Portfolio management also concerns monitoring **active projects** as per the objectives, balancing other investments of the organization, and ensuring **efficient use** of resources.

Project Management Vs Project Portfolio Management



Project portfolio management

- Are we working on the right projects?
- Are we investing in the right areas?
- Do we have the right resources to be competitive?

Project management

- Are we carrying out projects well?
- Are projects on time and on budget?
- Do project stakeholders know what they should be doing?

Project Portfolio Process Steps

1. Establish a project council
2. Identify project categories and criteria
3. Collect project data
4. Assess resource availability
5. Reduce the project and criteria set
6. Prioritize the projects within categories
7. Select the projects to be funded and held in reserve
8. Implement the process

Step 1: Establish a Project Council

- Senior management
- The project managers of major projects
- The head of the Project Management Office
- Particularly relevant general managers
- Those who can identify key opportunities and risks facing the organization
- Anyone who can derail the PPP later on

Step 2: Identify Project Categories and Criteria

- Original /Mandate projects
- Expansion Projects
- Breakthrough projects
- R&D projects

3. Collect Project Data

- Assemble the data
- Document assumptions
- Screen out weaker projects
- The fewer projects that need to be compared and analyzed, the easier the work of the council

4. Assess Resource Availability

- Assess both internal and external resources
- Assess labor conservatively
- Timing is particularly important

5. Reduce the Project and Criteria Set

Questions to answer

- Organization's goals
- Have competence
- Market for offering
- How risky the project is
- Potential partner
- Right resources
- Good fit
- Use strengths
- Synergistic
- Dominated by another

6. Prioritize the Projects Within Categories

- Apply the scores and criterion weights
- Consider in terms of benefits first and resource costs second
- Summarize the returns from the projects

7. Select Projects to be Funded and Held in Reserve

- Determine the mix of projects across the categories
- Leave some resources free for new opportunities
- Allocate the categorized projects in rank order

8. Implement the Process

- Communicate results
- Repeat regularly
- Improve process

The Role of the Project Manager

- Job descriptions vary, but most include responsibilities like **planning**, **scheduling**, **coordinating**, and **working** with people to achieve project goals
- Remember that 97% of successful projects were led by experienced project managers, who often help influence **success factors**

Ten Most Important Skills and Competencies for Project Managers

1. People skills
2. Leadership
3. Listening
4. Integrity, ethical behavior, consistent
5. Strong at building trust
6. Verbal communication
7. Strong at building teams
8. Conflict resolution and management
9. Critical thinking, problem solving
10. Understands, balances priorities

Different Skills Needed in Different Situations

- Large projects: Leadership, relevant prior experience, planning, people skills, verbal communication, and team-building skills were most important
- High uncertainty projects: Risk management, expectation management, leadership, people skills, and planning skills were most important
- Very novel projects: Leadership, people skills, having vision and goals, self confidence, expectations management, and listening skills were most important

Importance of Leadership Skills

- Effective project managers provide leadership by example
- A **leader** focuses on long-term goals and big-picture objectives while inspiring people to reach those goals
- A **manager** deals with the day-to-day details of meeting specific goals
- Project managers often take on the role of both leader and manager

Project Management Lifecycle

Definition

Planning

Execution

Closure

Key Purpose

Propose a project to senior management with a brief written document to establish a shared understanding of the proposal before writing a Plan, Schedule, and Budget

Propose a project in more detail, and outline a clear approach for executing the project in a Plan, Schedule, and Budget

Do the work described in the Project Plan, aligned with the Schedule and Budget

Shut down the project in a controlled manner

Key Questions

- Is this the right project?
- What results should it achieve?
- How will success be measured?

- How will the project achieve its objectives?
- When will the project finish?
- Who will do what?
- What will it cost?
- How will risks/issues be managed?

- How is project work progressing?
- What issues and risks does the project face, and how should these be managed?
- How much is the project actually costing?

- Is the work of the project complete?
- Did the project achieve its results/outcomes?
- What did the team learn that could help other projects?
- Where do project staff go next?

Key Activities

- Understand stakeholder interests and expectations
- Establish a shared high-level understanding of the proposed project and its intended results

- Thoroughly plan the project activities, schedule, and resource requirements
- Provide more detailed information to senior management for discussion and approval

- Mobilize the team to execute the Project Plan
- Control the execution of the Project Plan
- Communicate with stakeholders
- Report project status
- Update the Project Plan, Schedule, Budget, and Business Case as needed

- Demonstrate that the project is complete
- Assess the success of the project
- Undertake administrative close-out
- Transfer knowledge to the permanent organization
- Support departing staff

Key Deliverables

- Project Definition Document and/or Business Case

- Project Plan
- Project Schedule
- Project Budget

- Project Manual
- Status Reports
- Risk, Issue, and Change Logs
- Updated Plans, Schedules, Budgets

- Final Acceptance Document
- Lessons Learned Document
- Project Archives

Moving to the Next Phase

When your Project Definition Document and/or Business Case are approved by senior management, move to the Plan Phase

When your Project Plan, Schedule, and Budget are approved by senior management, move to the Implement Phase

As project deliverables near completion, move to the Close Phase

When this phase is complete, the project is finished

The Project Life Cycle

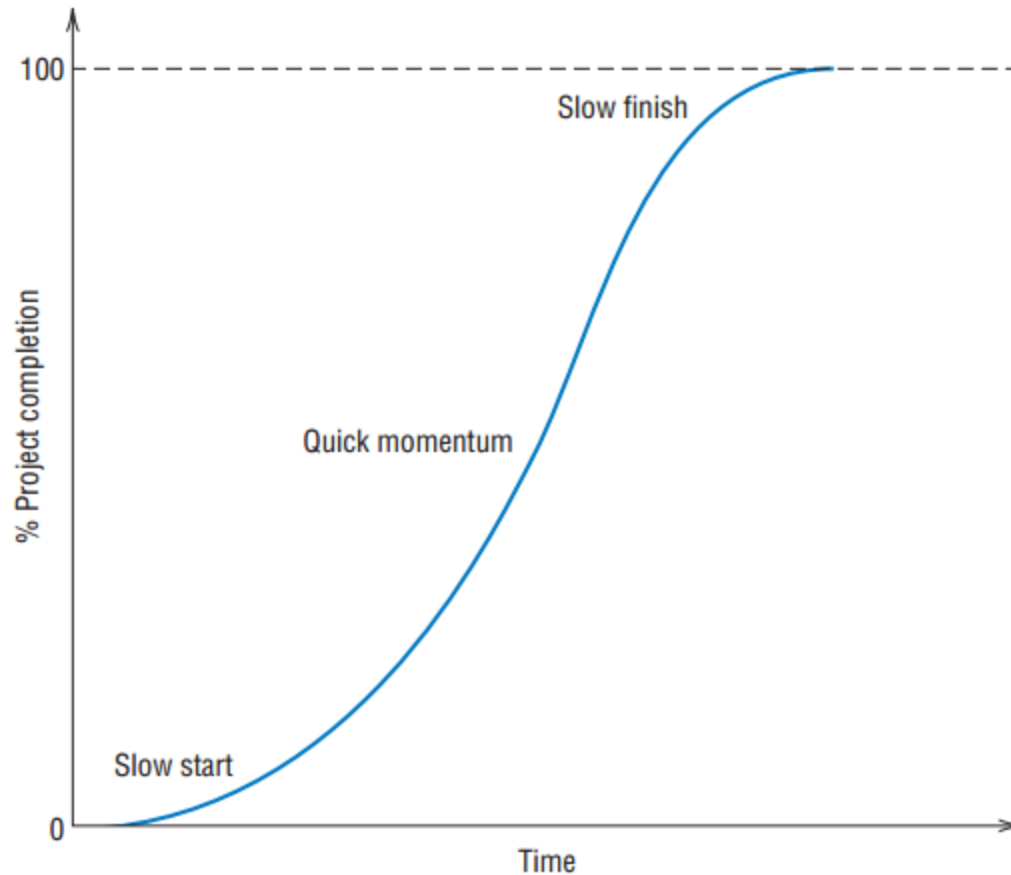


Figure 1-3 The common stretched-S project life cycle.

Project Definition / Initiation

- Projects in Contemporary Organizations
- Strategic Management and Project Selection
- The Project Manager
- Managing Conflict and the Art of Negotiation
- The Project in the Organizational Structure

Project Planning

- Propose a project in more detail, and outline a clear plan for executing the project in a plan
- Project planning involves:
 - Identifying project activities
 - Budgeting: Estimating costs and risks
 - Scheduling
 - Resource allocation

Project Execution

- During project implementation, monitor whether activities described in the project plan aligns to the schedule and budget:
- Other activities in this phase include :
 - Project Control
 - Project Auditing

Project Closure

- Demonstrate the project is complete and shutdown it in a controlled manner
- Assess the success of the project
- Transfer knowledge to the permanent organization
- Support departing staff