

Chapter 1: Introduction to Project Management

Information Technology Project Management, Ninth Edition

Note: See the text itself for full citations

Agenda

- Importance of project management
- What is a project
- What is project management
- Triple constraints
- Project stakeholder
- Knowledge areas
- Project tools and techniques
- Portfolio, program, project

Introduction

- Advantages of Using Formal Project Management:
 - Better control of financial, physical, and human resources
 - Improved customer relations
 - Shorter development times
 - Lower costs and improved productivity
 - Higher quality and increased reliability
 - Higher profit margins
 - Better internal coordination
 - Positive impact on meeting strategic goals
 - Higher worker morale

What Went Wrong?

- 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 over 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

Projects That Failed

- New Coke
 - New Coke was introduced in 1985
 - New Coca-Cola Drink
- Stretch Project
 - The Stretch project was initiated in 1956 by a group of computer scientists at IBM who wanted to build the world's fastest supercomputer.
 - The project's goal was to create a computer 100 times faster than what it was built to replace. Stretch was only about 30-40 times faster.

What Is a Project?

- A project is “a temporary endeavor undertaken to create a unique product, service, or result” (PMBOK® Guide, Sixth Edition, 2017)
- Operations is work done to sustain the business
- Projects end when their objectives have been reached or the project has been terminated

Examples of IT Projects

- A team of students creates a smartphone application and sells it online
- A company develops a driverless car
- A government group develops a system to track child immunizations
- A global bank acquires other financial institutions and needs to consolidate systems and procedures

Project Attributes

- A project
 - has a unique purpose
 - is temporary
 - drives change and enable value creation
 - is developed using progressive elaboration
 - requires resources, often from various areas
 - should have a primary customer or sponsor
 - The project sponsor usually provides the direction and funding for the project
 - involves uncertainty
- Project managers work with project sponsors, team, and other people involved in a project to achieve project goals

Breakout Activity

- Design an IT Project

What is Project Management?

- Project management is “the application of knowledge, skills, tools and techniques to project activities to meet project requirements” (PMBOK® Guide, Sixth Edition, 2017)
- 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 Constraints

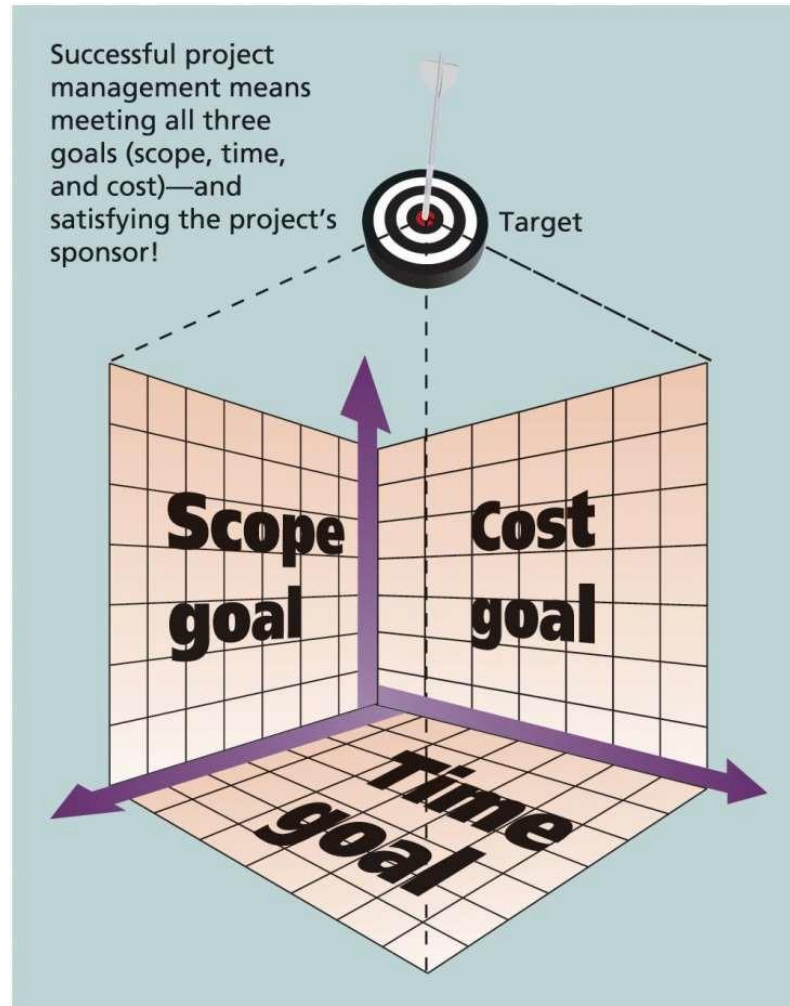


FIGURE 1-1 Project constraints

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Project Stakeholders

- Stakeholders are the people involved in or affected by project activities
- Stakeholders include
 - the project sponsor
 - banks and other financial institutions
 - the project manager
 - the project team
 - support staff
 - suppliers
 - opponents to the project

Breakout Activity

- List the stakeholder for your project

Project Management Knowledge Areas(1 of 2

- Knowledge areas describe the key competencies that project managers must develop
- Project managers must have knowledge and skills in all 10 knowledge areas (scope, schedule, cost, quality, resource, communications, risk, procurement, stakeholder, and project integration management)

Project Management Knowledge Areas(2 of 2)

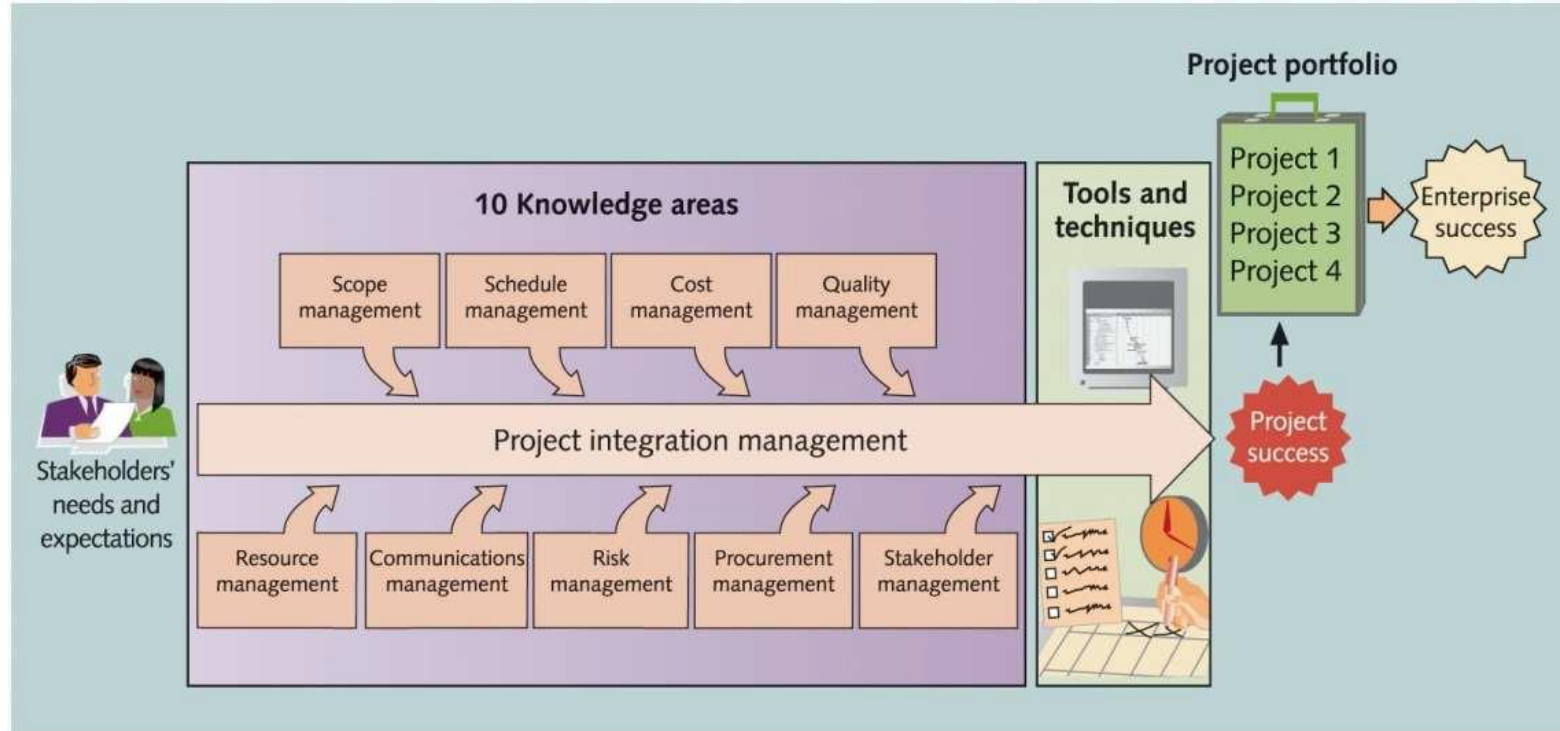


FIGURE 1-2 Project management framework

Project Management Tools and Techniques (1 of 2)

- Project management tools and techniques assist project managers and their teams in various aspects of project management
- Some specific ones include
 - Project charter, scope statement, and WBS (scope)
 - Gantt charts, network diagrams, critical path analysis, critical chain scheduling (time)
 - Cost estimates and earned value management (cost)

Project Management Tools and Techniques (2 of 2)

- PMBOK® Guide – Sixth Edition lists tools and techniques based on their purpose:
 - Data gathering
 - Data analysis
 - Data representation
 - Decision making
 - Communication
 - Interpersonal and team skills
 - Ungrouped

What Went Right?

- The Standish Group's CHAOS studies show improvements in the statistics for IT projects:
 - The number of successful projects was 29% in 2015
 - 62% of small projects were successful, 6% of large, 9% of medium, and 21% of moderate size
 - 39% of all agile projects were successful compared to 11% of waterfall projects

Project Success (1 of 4)

- 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, such as making or saving a certain amount of money, providing a good return on investment, or simply making the sponsors happy

Project Success (2 of 3)

- Top three reasons why federal technology projects succeed
 - Adequate funding
 - Staff expertise
 - Engagement from all stakeholders

Project Success (3 of 3)

- Research findings show that companies that excel in project delivery capability:
 - Use an integrated toolbox
 - Grow project leaders
 - Develop a streamlined project delivery process
 - Measure project health using metrics, like customer satisfaction or return on investment

Program and Project Portfolio Management

- About one-quarter of the world's gross domestic product is spent on projects
- Two important concepts that help projects meet enterprise goals:
 - Use of programs
 - Project portfolio management

Programs

- A program is “a group of related projects managed in a coordinated manner to obtain benefits and control not available from managing them individually” (PMBOK® Guide — Sixth Edition, 2017)
- Examples of common programs in the IT field include infrastructure, applications development, and user support
- A program manager provides leadership and direction for the project managers heading the projects within the program

Project Portfolio Management (1 of 2)

- As part of project portfolio management, organizations group and manage projects and programs as a portfolio of investments that contribute to the entire enterprise's success
- Portfolio managers help their organizations make wise investment decisions by helping to select and analyze projects from a strategic perspective

Project Portfolio Management (2 of 2)



FIGURE 1-3 Project management compared to project portfolio management

Breakout Activity

Create a program

Best Practice

- A best practice is “an optimal way recognized by industry to achieve a stated goal or objective”*
- Robert Butrick suggests that organizations need to follow basic principles of project management, including these two mentioned earlier in this chapter:
 - Make sure your projects are driven by your strategy. Be able to demonstrate how each project you undertake fits your business strategy, and screen out unwanted projects as soon as possible
 - Engage your stakeholders. Ignoring stakeholders often leads to project failure. Be sure to engage stakeholders at all stages of a project, and encourage teamwork and commitment at all times
- *Project Management Institute, Organizational Project Management Maturity Model (OPM3) Knowledge Foundation (2003), p. 13.

Organizational Project Management (1 of 2)

- Organizational project management
 - Framework in which portfolio, program, and project management are integrated with organizational enablers in order to achieve strategic objectives

Organizational Project Management (2 of 2)

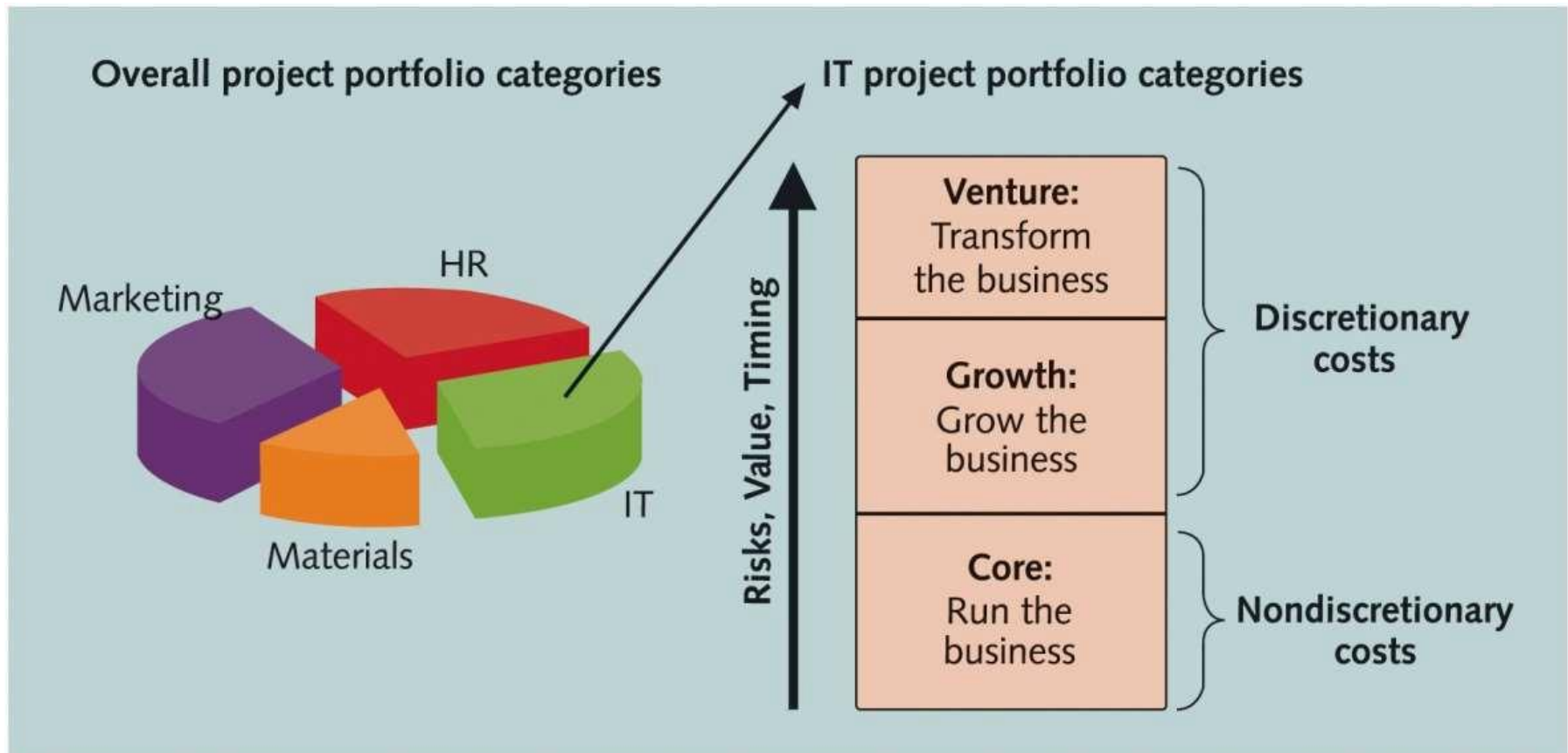


FIGURE 1-4 Sample project portfolio approach

The Role of the Project Manager

- Project managers must work closely with the other stakeholders on a project, especially the sponsor and project team
- They are also more effective if they are familiar with the 10 project management knowledge areas
 - And the various tools and techniques related to project management

Project Manager Job Description

- Job descriptions vary, but most include responsibilities like planning, scheduling, coordinating, and **working with people** to achieve project goals
- Project management is a skill needed in every major IT field, from database administrator to network specialist to technical writer

Advice for Young Professionals

- A few questions to ask yourself to know if you would be a good project manager
 - Do you get frustrated by bad bosses? Do you think you could do a better job?
 - Are you interested in understanding the big picture of how organizations work and how your individual work or your project fits in?
 - Have you had other leadership roles, such as being a team captain, president of a club, or entrepreneur of a small business? Did you enjoy it? Did others think you did a good job?
 - Are you good at mentoring others? Do people ask you for help in developing their skills or your advice on what to do?

Careers for IT Project Managers (2 of 2)

1.	Full-stack software development
2.	Project management
3.	Cyber-security
4.	Networking
5.	User experience/user interface (UX/UI) design
6.	Quality assurance (QA)/testing
7.	Cloud engineering
8.	Big data
9.	Machine learning/artificial intelligence
10.	DevOps

Source: Sharon Florentine, "10 IT skills that employers need in 2017," CIO from IDG (February 1, 2017).

Table 1-4 Ten hot tech skills for 2017

Chapter Summary

- A project is a temporary endeavor undertaken to create a unique product, service, or result
- Project management is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements
- A program is a group of related projects managed in a coordinated way
- Project portfolio management involves organizing and managing projects and programs as a portfolio of investments
- Project managers play a key role in helping projects and organizations succeed
- The project management profession continues to grow and mature