MONASH University

Information Technology

FIT2002
IT Project Management

Semester 1, 2019

Lecture 1
Introduction to Project Management

Video 1:
Learning Objectives

- Introduction and the motivation to study IT project management
- Explain what a project is, provide examples of IT projects, list various attributes of projects.
- Difference between projects and operations

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Introduction

- Many organizations today have a new or renewed interest in project management.
- The Project Management Institute estimates demand for 15.7 million project management jobs from 2010 to 2020
- The top skills employers look for in new college graduates are all related to project management: team-work, decision-making, problem-solving, and verbal communications
- According to Hays recruiting expert, digital project manager is one of the top 10 hottest tech job in 2019

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What Is a Project?

- A **project** is “a temporary endeavor undertaken to create a unique product, service, or result” (PMBOK® Guide, Sixth Edition, 2013)
- Operations is work done to sustain the business
- 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

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Project Attributes

- A project
  - has a **unique** purpose
  - is **temporary**, with a definite **start** and **end** date
  - 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**

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What Is IT Project?

- An IT project involve using hardware, software, and/or networks to create a product, service, or result
- Information technology projects typically have a:
  - Planned beginning and a planned deadline
  - Defined outcome and key ‘deliverables’
  - Evaluated as to time, cost, scope, performance, quality assurance and are fit for purpose it is intended
  - Budget
  - Team of skilled specialist people

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Examples of IT Projects

- A team of students creates a smartphone application
- A small software development team adds a new feature to an internal software application for the finance department
- A company develops a driverless car
- A government group develops a system to track child immunizations
- Mobile-centric applications and interfaces

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Project versus Operations

Project

- A temporary group activity with a start and end date
- Produces a unique product, service or result
- Projects have a fixed budget

Operations

- Ongoing execution of activities
- Produce the same output repeatedly, or provide a repetitive service.
- Operations have to earn profit – it is work done to sustain a business

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Video 2:
Learning Objectives

- What is project management?
- What is the triple constraint?
- Discuss key elements of the project management framework, including project stakeholders, the project management knowledge areas, common tools and techniques.

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What is Project Management?

- **Project management** is “the application of knowledge, skills, tools and techniques to project activities to meet project requirements” (PMBOK® Guide, Fourth Edition, 2013)
- 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

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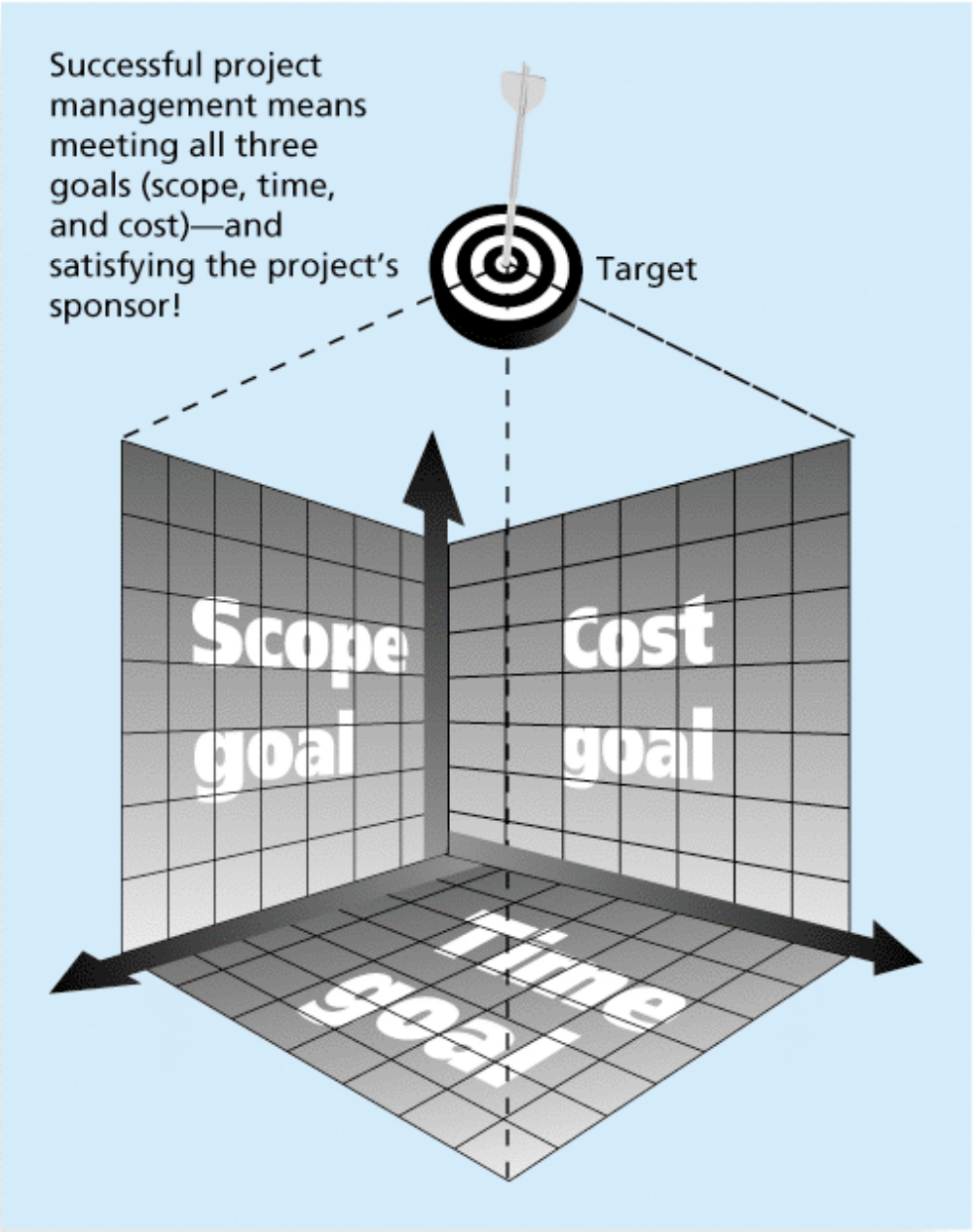
The Triple Constraint of Project Management



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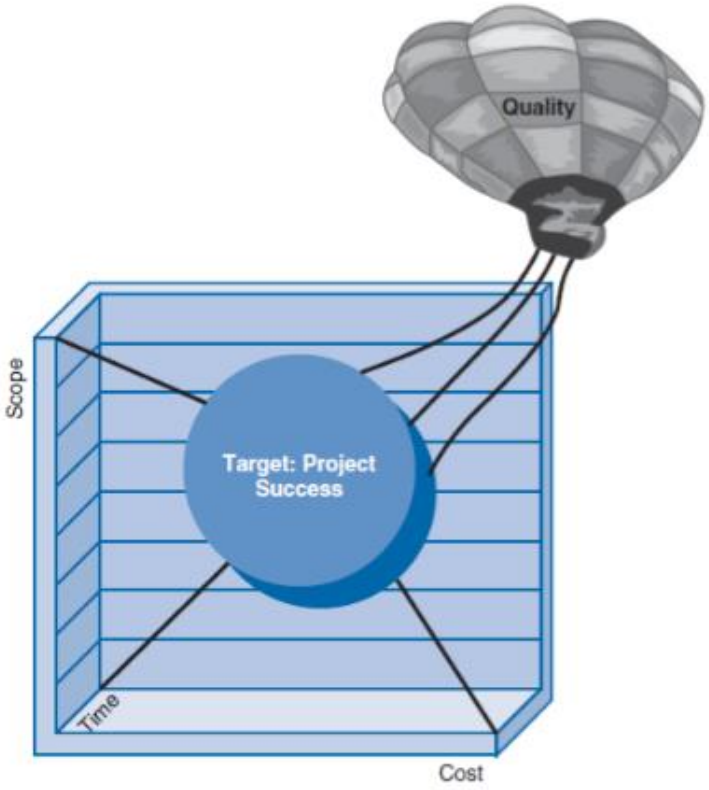
Triple Constraint Juggling Act

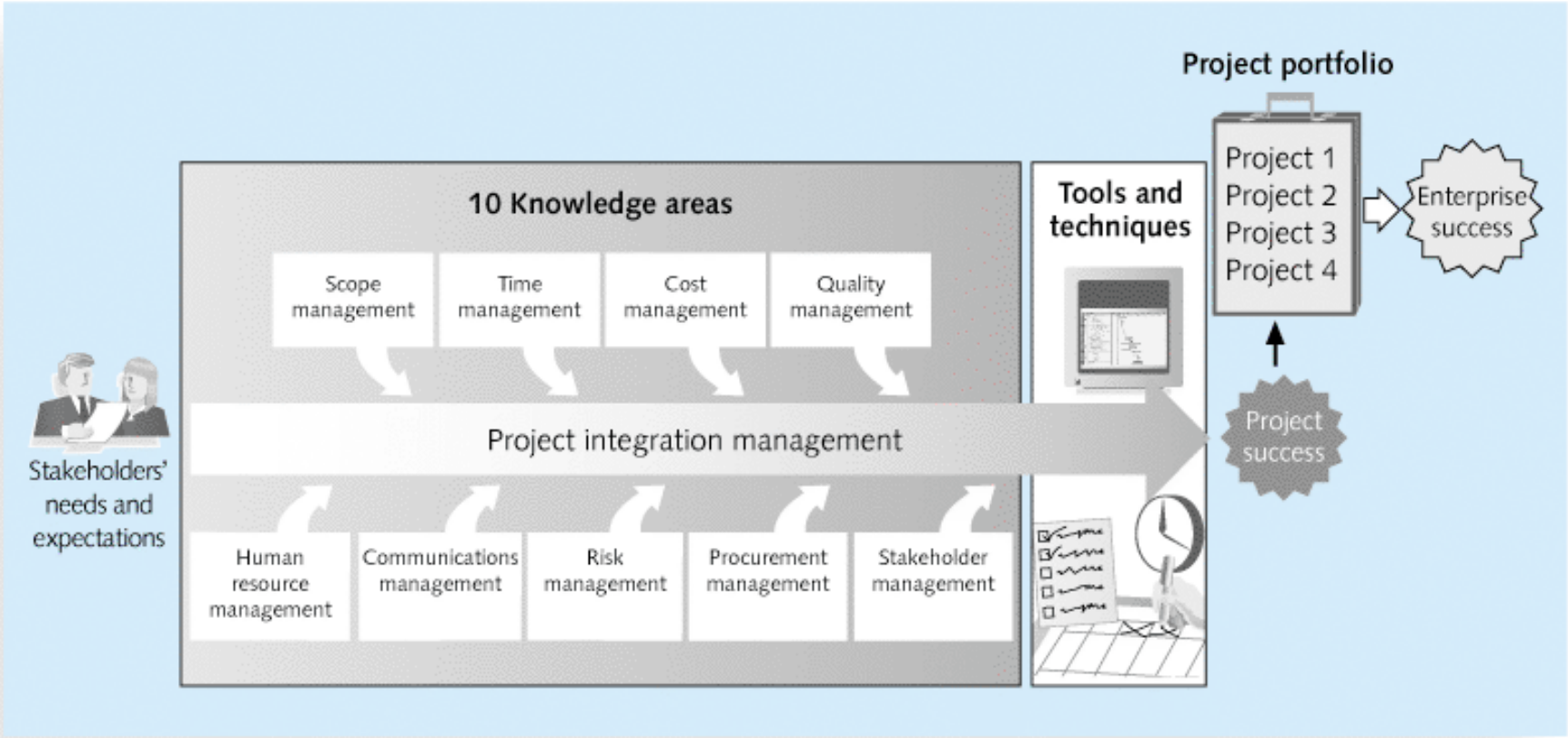
- **Reducing** time allowed will **increase** cost and **may reduce** the scope (functions and features) of the system
- **Reducing** costs (cutting the budget) will **increase** time (delay schedule) and **may reduce** the scope of the system
- **Increasing** scope (adding features) will **certainly increase** time and/or cost
- **Reducing** scope **may reduce** time and cost (and it may also *negatively* affect quality)



http://scottambler.com/no-common-definition-ofsuccess.html

Ref: Methods of IT Project Management, Brewer and Dittman, 2013, p.16

Figure 1-2 Project Management Framework



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Project Stakeholders

- A **stakeholder** is a person or an organization who has a **“stake”** or an **interest** in the performance or outcome of the project. Stakeholders include:
  - the project sponsor
  - the project manager
  - the project team
  - support staff
  - customers
  - users
  - suppliers
  - opponents to the project

Who is the Project Sponsor?

- A project sponsor has a **senior management role** in the organisation in which the project is running
- A project sponsor might also **champion or advocate** for the project.
- Having a **committed project sponsor** is **critical** to the success of the project
- Skills: Establish a good relationship and communication with Project Manager for:
  - Objective setting and Up-front planning
  - Key staffing
  - Policies and Priority setting
  - Monitoring and execution
  - Conflict resolution

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Project Team

- The success of a project depends on:
  - Working together - **teamwork**
  - How well teams **communicate** with each other and with the project manager and visa versa
  - **Commitment**
  - How efficient project teams are in **executing** project goals and objectives
  - Correctly **mapping tasks** to individual team members' competencies – team skills

10 Project Management Knowledge Areas

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

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Project Management Tools and Techniques

- **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)
  - … and many more that we will explore throughout the course of our unit

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Super Tools

- "**Super tools**" are those tools that have high use and high potential for improving project success, such as:
  - Software for task scheduling
  - Scope statements
  - Requirements analyses
  - Lessons-learned reports
- Tools already extensively used that have been found to improve project importance include:
  - Progress reports
  - Kick-off meetings
  - Gantt charts
  - Change requests

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Project Management Software

- There are hundreds of different products to assist in performing project management
- Three main categories of tools:
  - **Low-end tools**: Handle single or smaller projects well, cost under $200 per user
  - **Midrange tools**: Handle multiple projects and users, cost $200-$1,000 per user
  - **High-end tools**: Also called enterprise project management software, often licensed on a per-user basis
- Several free or open-source tools are also available

Video 3:
Learning Objectives

- Discuss the relationship between project, program, and portfolio management and the contributions each makes to enterprise success
- How do we define project success?
- How can we ensure project success?

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Program and Project Managers

- A **program** is “a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually” (PMBOK® Guide, Sixth Edition, 2013)
- A **program manager** provides leadership and direction for the project managers heading the projects within the program
- Program managers oversee programs; often act as bosses for project managers
- **Project managers** work with project sponsors, project team, and other people involved in a project to meet project goals

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Project Portfolio Management

- 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

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Project Management Compared to Project Portfolio Management

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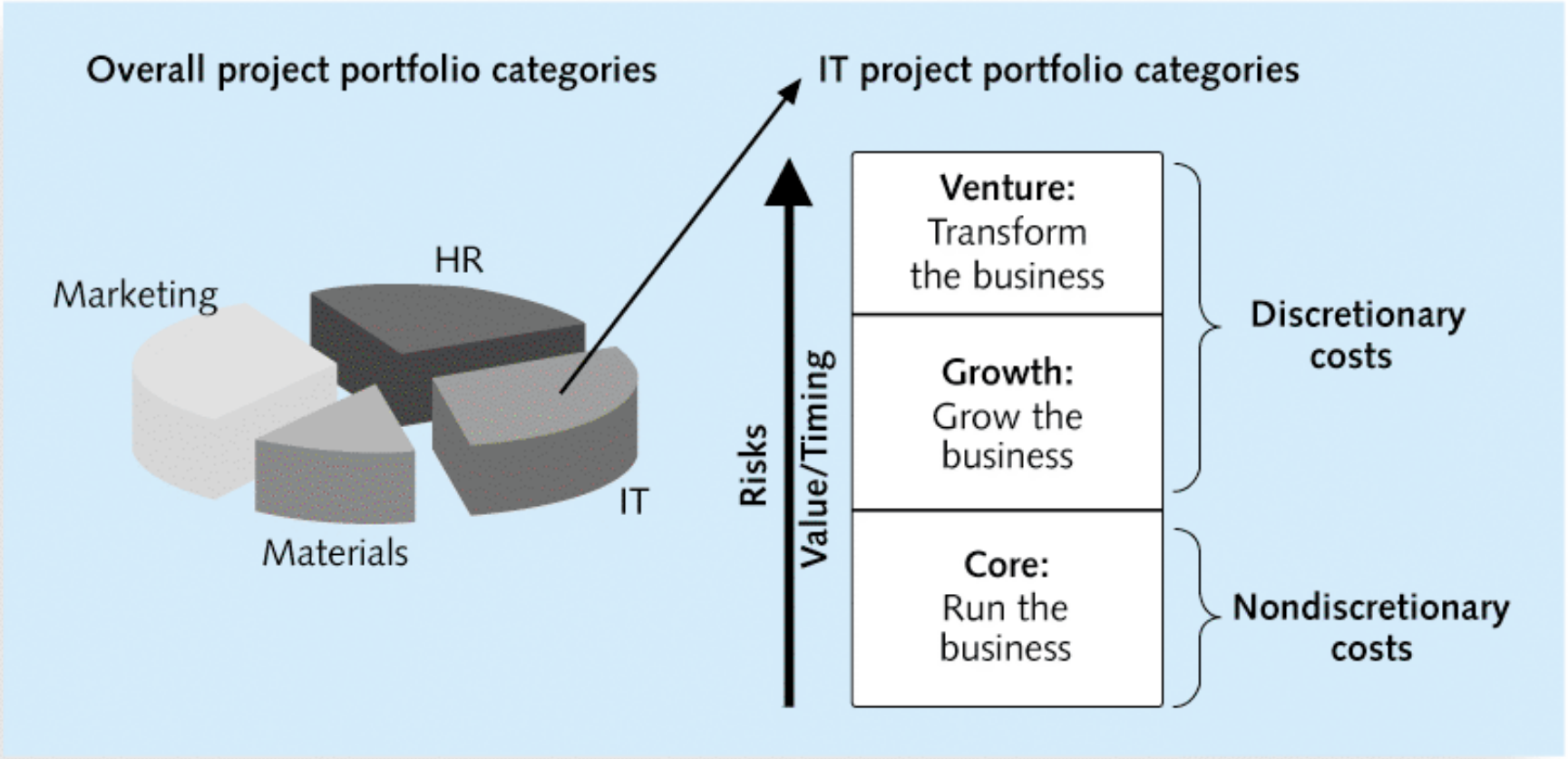
Sample Project Portfolio Approach



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Project Success

- 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

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What Helps Projects Succeed?*

1. Executive support
2. User involvement
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

*The Standish Group, "CHAOS Manifesto 2013: Think Big, Act Small" (2013).

Advantages of Using Formal Project Management

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

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What the Winners Do…

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

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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:
  - 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.*

Video 4:
Learning Objectives

- Understand the role of project managers by describing what they do, what skills they need, and career opportunities for IT project managers
- Describe the project management profession, including its history, the role of professional organizations like the Project Management Institute (PMI), the importance of certification and ethics, and the advancement of project management software

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The Role of the Project Manager

Holding project kickoff meeting	Encouraging the team to focus on deadlines
Laying out the project targets, plan and workflow	Evaluating the performance
Negotiating for resources	Briefing the project sponsor
Establishing the project's policies and procedures	Managing the costs - procurement
Obtaining funds	Briefing the team
Executing the plan	Briefing the customer
Closing out the project	

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Suggested Skills for Project Managers

- The Project Management Body of Knowledge
- Application area knowledge, standards, and regulations
- Project environment knowledge
- General management knowledge and skills
- Soft skills or human relations skills
- Technical skills

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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, conflict management
9. Critical thinking, problem solving
10. Understands, balances priorities

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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

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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

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History of Project Management

Early Project Management

- **Until 1900**: most civil engineering projects were managed by engineers, creative architects, and master builders.
- **In the 1950s**: organizations started to **systematically** apply project management **tools** and **techniques** to complex engineering projects.
- Two forefathers of project management are:
  - Henry Gantt

    Called the father of planning and control techniques
  - Henry Fayol

    Famous for his creation of the management functions that form the foundation of the body of knowledge

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Project Management Offices (PMO)

- In the 1990s, many companies began creating PMOs to help them handle the increasing number and complexity of projects
- A **Project Management Office (PMO)** is an organizational group responsible for coordinating the project management function throughout an organization
- 3 key factors that are playing major roles in the growth of PMOs:
  - 1. The growing strategic value of the PMO
  - 2. The increased role of the PMO in training
  - 3. The ever-present challenge of resource management

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The Project Management Institute

- The Project Management Institute (PMI) is an international professional society for project managers founded in 1969
- PMI provides certification as a **Project Management Professional** (**PMP**)
- PMI has continued to attract and retain members, reporting more than 658,523 active PMPs worldwide by April 2015 and continues to grow
- There are communities of practices in many areas, like information systems, financial services, and health care
- Students can join PMI at a reduced fee and earn the Certified Associate in Project Management (CAPM) certification(visit www.pmi.org)

Ethics in Project Management

- **Ethics**, loosely defined, is a set of principles that guide our decision making based on personal values of what is “right” and “wrong”
- Project managers often face ethical dilemmas
- In order to earn PMP certification, applicants must agree to PMI’s Code of Ethics and Professional Conduct
- Several questions on the PMP exam are related to professional responsibility, including ethics

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