

# Chapter 2: The Project Management and Information Technology Context

Information Technology Project  
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Note: See the text itself for full citations.



# Learning Objectives

- ▶ Describe the systems view of project management and how it applies to information technology (IT) projects
- ▶ Understand organizations, including the four frames, organizational structures (组织结构), and organizational culture (组织文化)
- ▶ Explain why stakeholder management (利益相关者管理) and top management commitment (高层管理承诺/高层支持) are critical for a project's success

# Learning Objectives (cont.)

- ▶ Understand the concept of a project phase (项目阶段) and the project life cycle (项目生命周期)
- ▶ Discuss the unique attributes and diverse nature of IT projects
- ▶ Describe recent trends affecting IT project management, including globalization (全球化), outsourcing (外包), virtual teams (虚拟团队), and agile project management (敏捷项目管理)

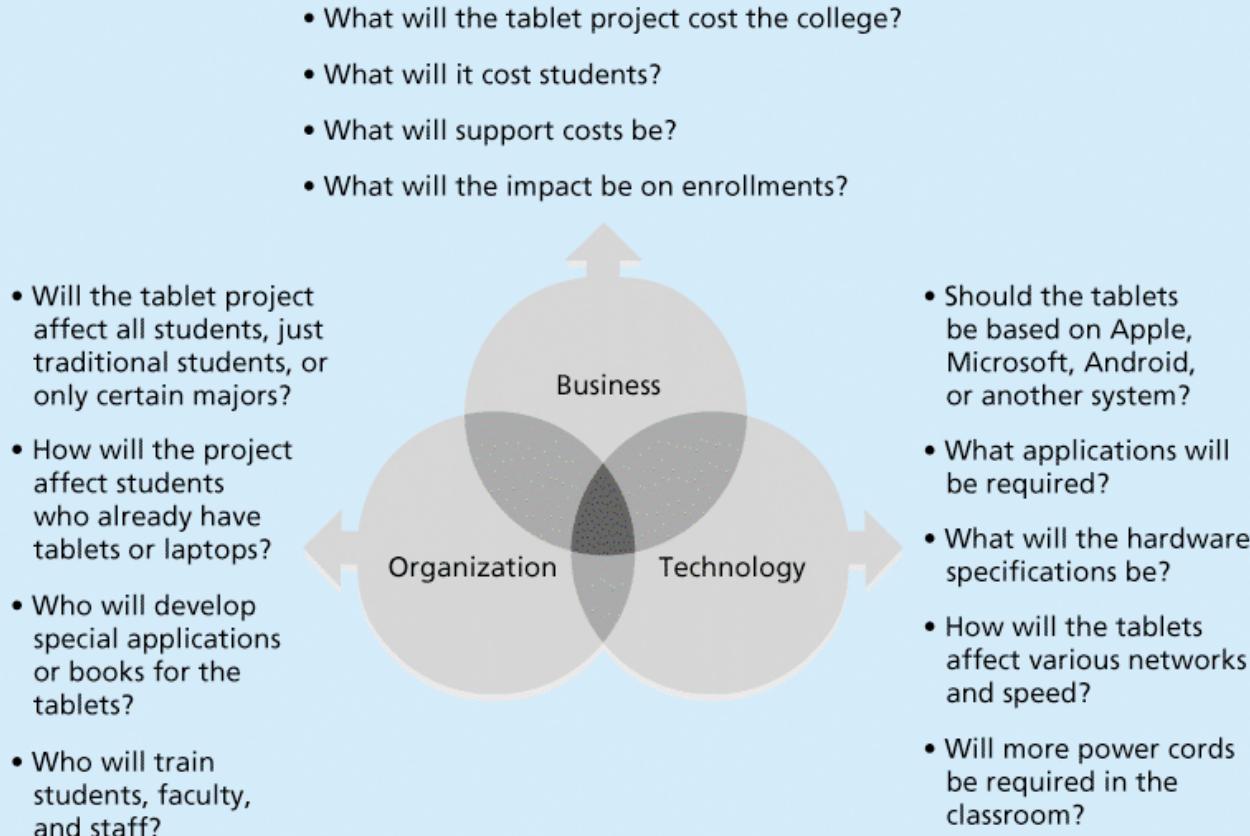
# Projects Cannot Be Run In Isolation

- ▶ Projects must operate in a broad organizational environment
- ▶ Project managers need to use **systems thinking** (系统思考) :
  - taking a holistic view of carrying out projects within the context of the organization
- ▶ Senior managers must make sure projects continue to support current business needs

# A Systems View of Project Management

- ▶ A **systems approach** (系统方法) emerged in the 1950s to describe a more analytical approach to management and problem solving
- ▶ Three parts include:
  - **Systems philosophy** (系统哲学) : an overall model for thinking about things as systems
  - **Systems analysis** (系统分析) : problem-solving approach
  - **Systems management** (系统管理) : address business, technological, and organizational issues before making changes to systems

# Figure 2-1. Three Sphere Model for Systems Management



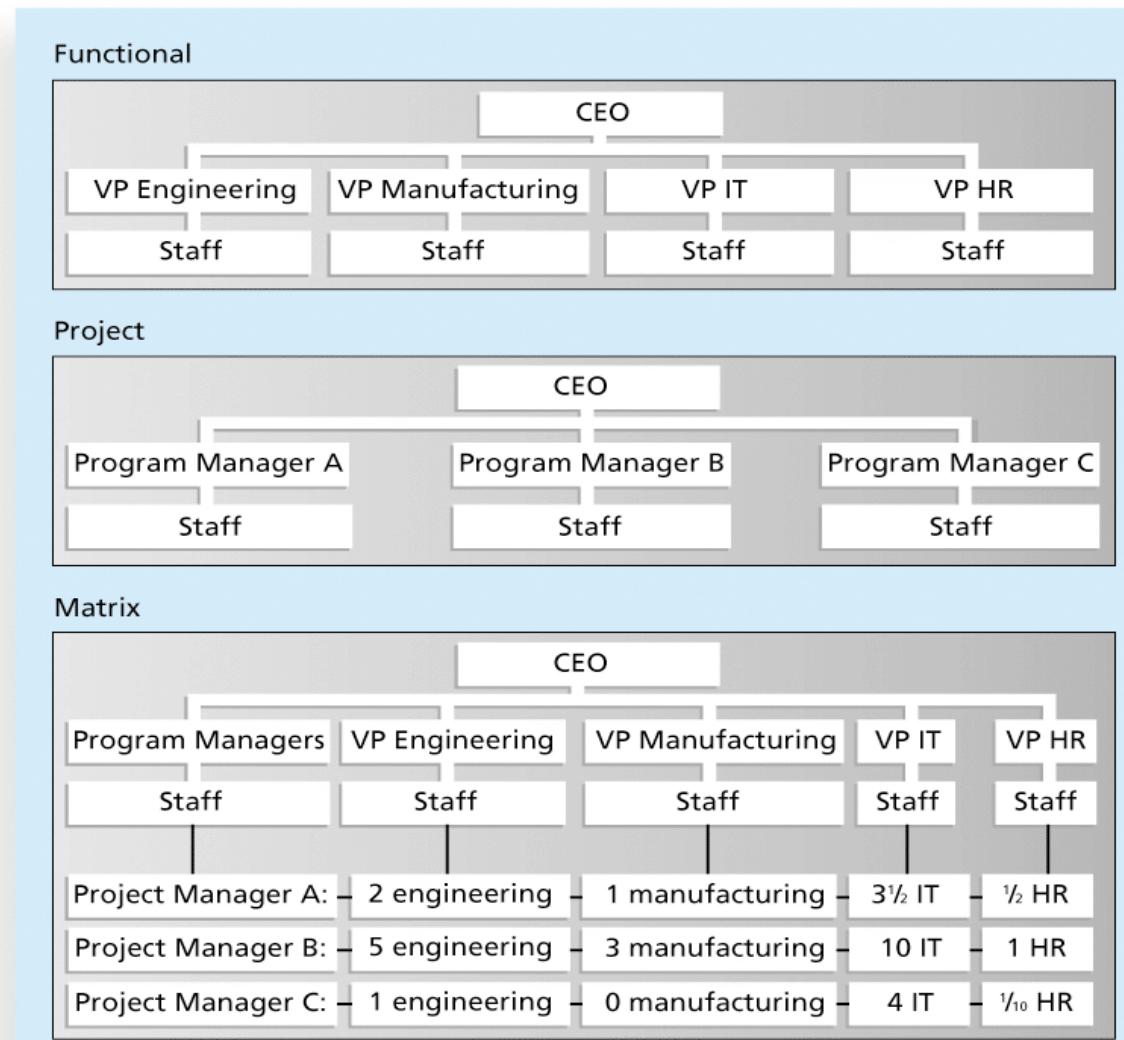
# Figure 2-2. Perspectives on Organizations

结构框架	人力资源框架
<b>Structural frame:</b> Roles and responsibilities, coordination, and control. Organizational charts help describe this frame.	<b>Human resources frame:</b> Providing harmony between needs of the organization and needs of people.
<b>Political frame:</b> Coalitions composed of varied individuals and interest groups. Conflict and power are key issues.	<b>Symbolic frame:</b> Symbols and meanings related to events. Culture, language, traditions, and image are all parts of this frame.
政治框架	标志框架

# Organizational Structures

- ▶ Three basic organization structures
  - **Functional organizational structure** (职能型组织结构) : functional managers report to the CEO
  - **Project organizational structure** (项目型组织结构) : program managers report to the CEO
  - **Matrix organizational structure** (矩阵型组织结构) : middle ground between functional and project structures; personnel often report to two or more bosses; structure can be weak, balanced, or strong matrix

# Figure 2-3. Functional, Project, and Matrix Organizational Structures



# Table 2-1. Organizational Structure Influences on Projects

Project Characteristics	Organizational Structure Type			Project	
	Functional	Weak Matrix	Balanced Matrix	Strong Matrix	
Project manager's authority	Little or none	Limited	Low to moderate	Moderate to high	High to almost total
Percent of organization's personnel assigned full-time to project work	Virtually none	0–25%	15–60%	50–95%	85–100%
Who controls the project budget	Functional manager	Functional manager	Mixed	Project manager	Project manager
Project manager's role	Part-time	Part-time	Full-time	Full-time	Full-time
Common title for project manager's role	Project coordinator/ project leader	Project coordinator/ project leader	Project manager/ project officer	Project manager/ program manager	Project manager/ program manager
Project management administrative staff	Part-time	Part-time	Part-time	Full-time	Full-time

# Organizational Culture

- ▶ **Organizational culture** (组织文化) is a set of shared assumptions, values, and behaviors that characterize the functioning of an organization
- ▶ Many experts believe the underlying causes of many companies' problems are not the structure or staff, but the culture

# Ten Characteristics of Organizational Culture

- ▶ Member identity\* (成员认可)
- ▶ Group emphasis\* (强调群体)
- ▶ People focus (关注员工)
- ▶ Unit integration\* (单位整合)
- ▶ Control (控制)
- ▶ Risk tolerance\* (风险容忍)
- ▶ Reward criteria\* (奖励标准)
- ▶ Conflict tolerance\* (冲突容忍)
- ▶ Means-ends orientation (过程-结果导向)
- ▶ Open-systems focus\* (基于开放的系统)

\*Project work is most successful in an organizational culture where these items are strong/high and other items are balanced.

# Stakeholder Management

- ▶ Project managers must take time to identify, understand, and manage relationships with all project stakeholders
- ▶ Using the four frames of organizations can help meet stakeholder needs and expectations
- ▶ Senior executives/top management are very important stakeholders

# The Importance of Top Management Commitment (高层支持的重要性)

- ▶ People in top management positions are key stakeholders in projects
- ▶ A very important factor in helping project managers successfully lead projects is the level of commitment and support they receive from top management
- ▶ Without top management commitment, many projects will fail.
- ▶ Some projects have a senior manager called a **champion** (推动者/支持者) who acts as a key proponent for a project.

# How Top Management Can Help Project Managers

- ▶ Providing adequate resources
- ▶ Approving unique project needs in a timely manner
- ▶ Getting cooperation from other parts of the organization
- ▶ Mentoring and coaching on leadership issues

# Need for Organizational Commitment to Information Technology (IT)

- ▶ If the organization has a negative attitude toward IT, it will be difficult for an IT project to succeed
- ▶ Having a Chief Information Officer (CIO, 首席信息官) at a high level in the organization helps IT projects

# Need for Organizational Standards

- ▶ Standards and guidelines help project managers be more effective
- ▶ Senior management can encourage
  - the use of standard forms and software for project management
  - the development and use of guidelines for writing project plans or providing status information
  - the creation of a project management office or center of excellence

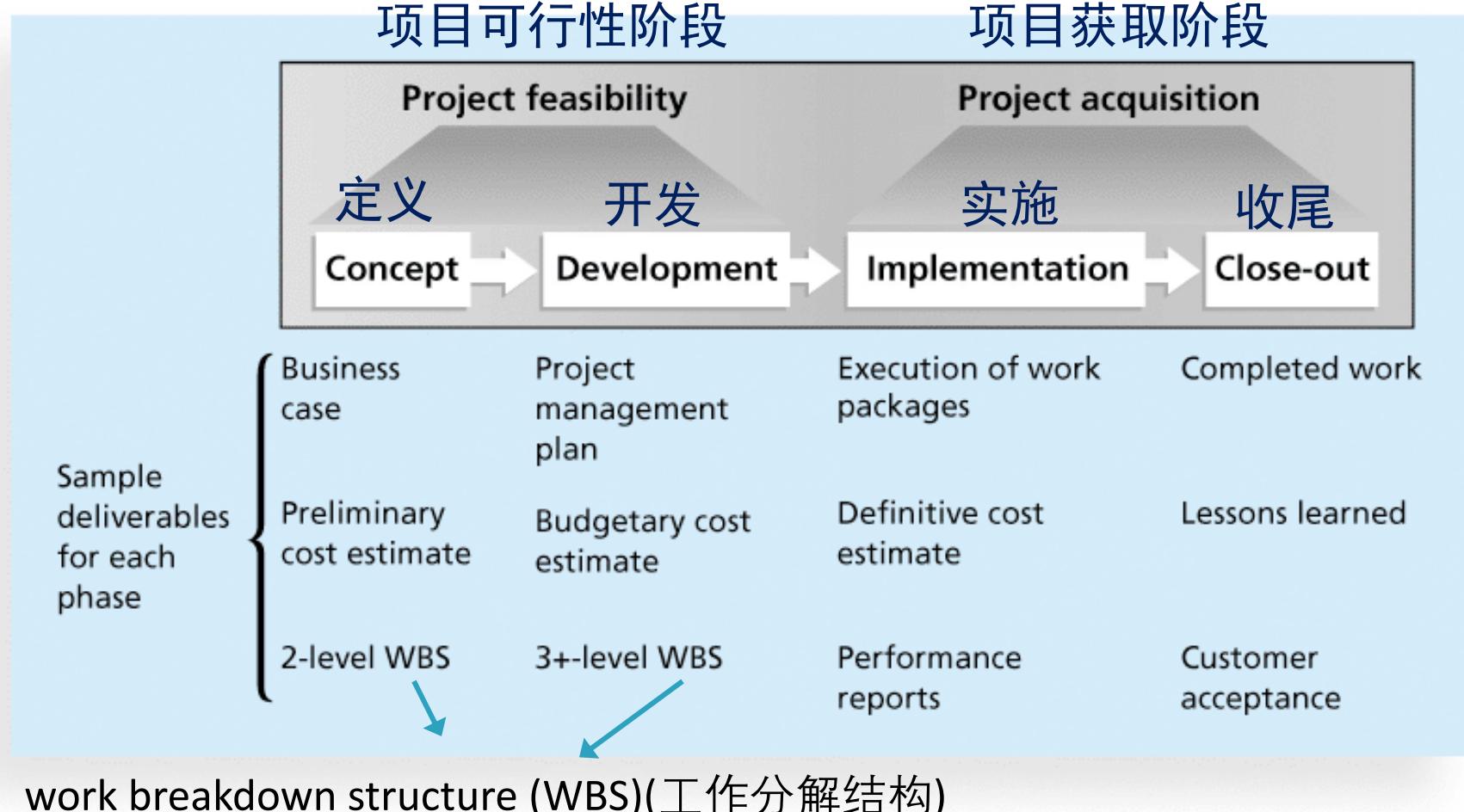
# Project Phases and the Project Life Cycle

- ▶ A **project life cycle** (项目生命周期) is a collection of project phases (项目阶段) that defines
  - what work will be performed in each phase
  - what deliverables will be produced and when
  - who is involved in each phase, and
  - how management will control and approve work produced in each phase
- ▶ A **deliverable** (可交付成果) is a product or service produced or provided as part of a project

# More on Project Phases

- ▶ In early phases of a project life cycle
  - resource needs are usually lowest
  - the level of uncertainty (risk) is highest
  - project stakeholders have the greatest opportunity to influence the project
- ▶ In middle phases of a project life cycle
  - the certainty of completing a project improves
  - more resources are needed
- ▶ The final phase of a project life cycle focuses on
  - ensuring that project requirements are met
  - the sponsor approves completion of the project

# Figure 2-4. Phases of the Traditional Project Life Cycle



# The Importance of Project Phases and Management Reviews

- ▶ A project should successfully pass through each of the project phases in order to continue on to the next
- ▶ Management reviews, also called **phase exits** (退出阶段) or **kill points** (终止点), should occur after each phase to evaluate the project's progress, likely success, and continued compatibility with organizational goals

# The Context of IT Projects

- ▶ IT projects can be very diverse in terms of size, complexity, products produced, application area, and resource requirements
- ▶ IT project team members often have diverse backgrounds and skill sets
- ▶ IT projects use diverse technologies that change rapidly. Even within one technology area, people must be highly specialized

# Recent Trends Affecting IT Project Management

- ▶ Globalization (全球化)
- ▶ Outsourcing (外包) : **Outsourcing** is when an organization acquires goods and/or sources from an outside source. **Offshoring** (离岸外包) is sometimes used to describe outsourcing from another country
- ▶ Virtual teams (虚拟团队) : A **virtual team** is a group of individuals who work across time and space using communication technologies
- ▶ Agile project management (敏捷项目管理)

# Important Issues and Suggestions Related to Globalization

## ▶ Issues

- Communications (沟通)
- Trust (信任)
- Common work practices (共同的工作方式)
- Tools (工具)

## ▶ Suggestions

- Employ greater project discipline
- Think global but act local
- Keep project momentum going
- Use newer tools and technology

momentum: the ability to keep increasing or developing

# Outsourcing

- ▶ Organizations remain competitive by using outsourcing to their advantage, such as finding ways to reduce costs
- ▶ Project managers should become more familiar with negotiating contracts and other outsourcing issues

# **Virtual Teams Advantages**

- ▶ Increasing competitiveness and responsiveness by having a team of workers available 24/7
- ▶ Lowering costs because many virtual workers do not require office space or support beyond their home offices.
- ▶ Providing more expertise and flexibility by having team members from across the globe working any time of day or night
- ▶ Increasing the work/life balance for team members by eliminating fixed office hours and the need to travel to work.

# Virtual Team Disadvantages

- ▶ Isolating team members
- ▶ Increasing the potential for communications problems
- ▶ Reducing the ability for team members to network and transfer information informally
- ▶ Increasing the dependence on technology to accomplish work

See text for a list of factors that help virtual teams succeed, including team processes, trust/relationships, leadership style, and team member selection.

# Agile Project Management

- ▶ Agile means being able to move quickly and easily, but some people feel that project management, as they have seen it used, does not allow people to work quickly or easily.
- ▶ Agile today means using a method based on iterative and incremental development, in which requirements and solutions evolve through collaboration.
- ▶ Agile is a methodology that describes *how* to manage projects.

# Chapter Summary

- ▶ Project managers need to take a **systems approach** when working on projects
- ▶ Organizations have **four different frames**: structural, human resources, political, and symbolic
- ▶ The **structure and culture of an organization** have strong implications for project managers
- ▶ Projects should successfully pass through each **phase of the project life cycle**
- ▶ Recent trends affecting IT project management include **globalization, outsourcing, virtual teams, and Agile project management**