Chapter 2: The Project Management and Information Technology Context

Information Technology Project Management, Seventh Edition

Note: See the text itself for full citations.

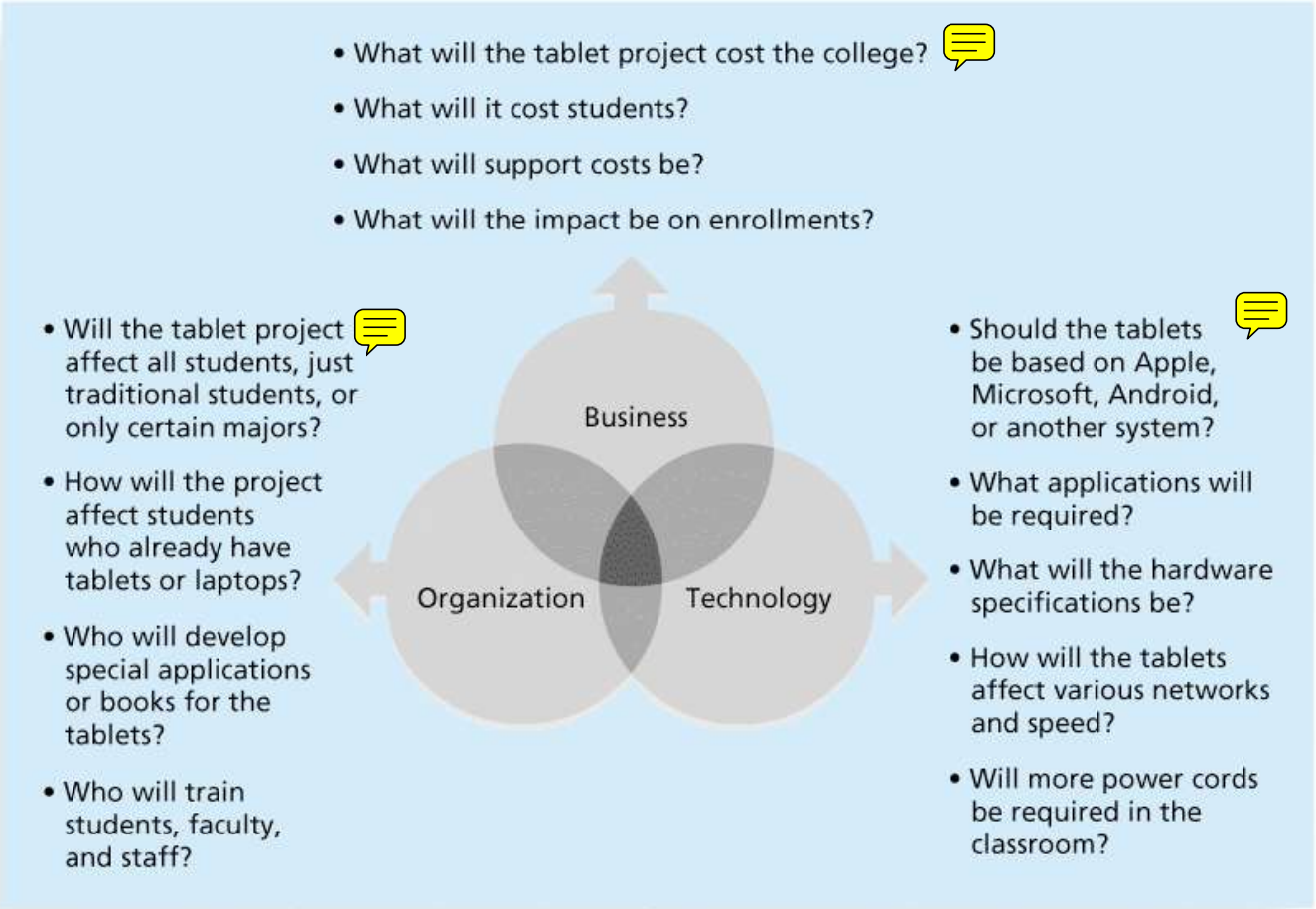
Learning Objectives

- Describe the systems view of project management and how it applies to information technology (IT) projects
- Understand organizations, including the four frames, organizational structures, and organizational culture
- Explain why stakeholder management and top management commitment are critical for a project's success

Learning Objectives

- Understand the concept of a project phase and the project life cycle, and distinguish between project development and product development
- Discuss the unique attributes and diverse nature of IT projects
- Describe recent trends affecting IT project management, including globalization, outsourcing, virtual teams, and agile project management

Figure 2-1. Three Sphere Model for Systems Management



UNDERSTANDING ORGANIZATIONS

The systems approach requires that project managers always view their projects in the context of the larger organization. Organizational issues are often the most difficult part of working on and managing projects. For example, many people believe that most projects fail because of company politics. Project managers often do not spend enough time identifying all the stakeholders involved in projects, especially the people opposed to the projects. Also, project managers often do not spend enough time considering the political context of a project or the culture of the organization. To improve the success rate of IT projects, it is important for project managers to develop a better understanding of people as well as organizations.

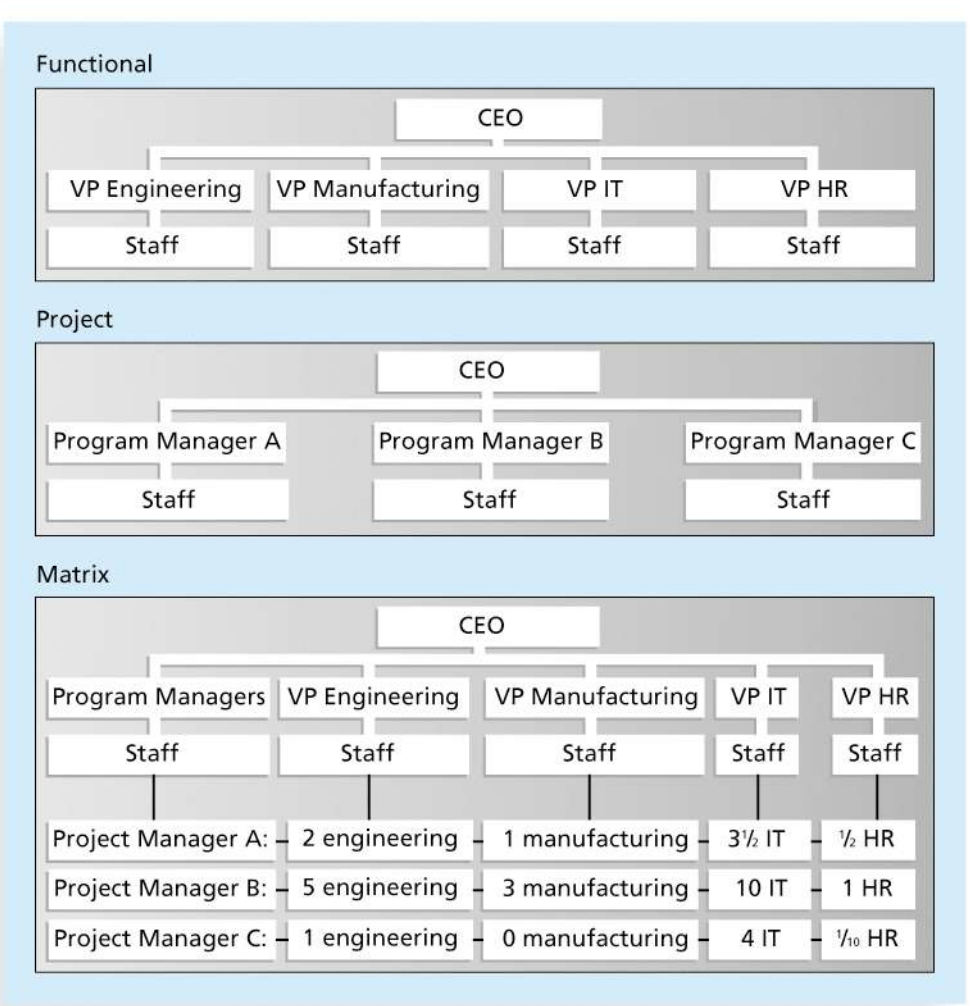
Figure 2-2. Perspectives on Organizations

Structural frame: Roles and responsibilities, coordination, and control. Organizational charts help describe this frame.	**Human resources frame:** Providing harmony between needs of the organization and needs of people.
Political frame: Coalitions composed of varied individuals and interest groups. Conflict and power are key issues.	**Symbolic frame:** Symbols and meanings related to events. Culture, language, traditions, and image are all parts of this frame.

Organizational Structures

- 3 basic organization structures 
  - **Functional:** functional managers report to the CEO
  - **Project:** program managers report to the CEO
  - **Matrix:** 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



Organizational Culture

- **Organizational culture** 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*
- Group emphasis*
- People focus
- Unit integration*
- Control
- Risk tolerance*
- Reward criteria*
- Conflict tolerance*
- Means-ends orientation
- Open-systems focus*

*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
- See Chapter 13, Project Stakeholder Management, for more information

The Importance of Top Management Commitment

- 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** 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) at a high level in the organization helps IT projects
- Assigning non-IT people to IT projects also encourage more commitment

Project Phases and the Project Life Cycle

- A **project life cycle** is a collection of project phases 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** 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 were met
  - the sponsor approves completion of the project

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

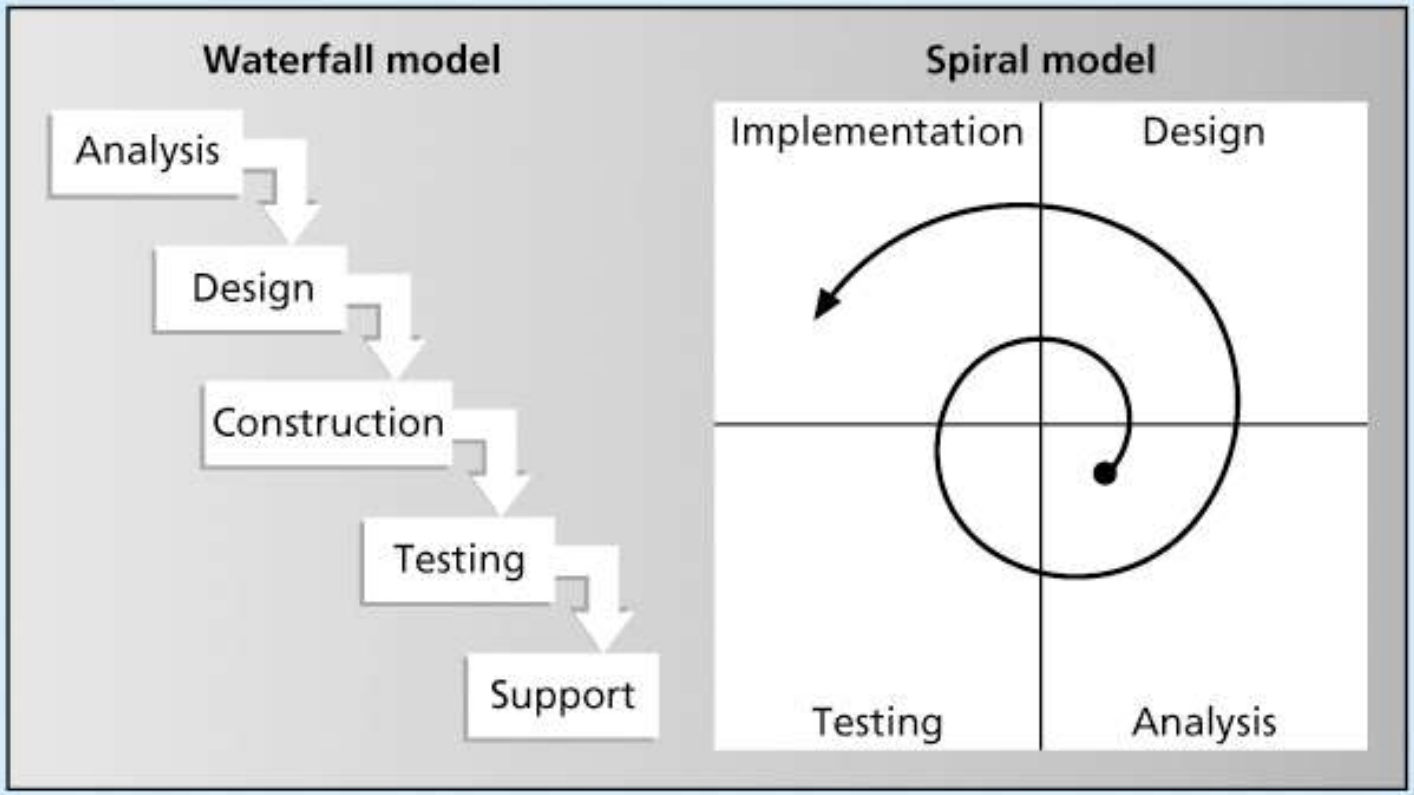
Chapter Summary

- 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
- Project managers need to consider several factors due to the unique context of information technology projects
- Recent trends affecting IT project management include globalization, outsourcing, virtual teams, and Agile

Predictive Life Cycle Models

- Waterfall model: has well-defined, linear stages of systems development and support
- Spiral model: shows that software is developed using an iterative or spiral approach rather than a linear approach
- Incremental build model: provides for progressive development of operational software
- Prototyping model: used for developing prototypes to clarify user requirements
- Rapid Application Development (RAD) model: used to produce systems quickly without sacrificing quality

Figure 2-5. Waterfall and Spiral Life Cycle Models



Agile Software Development

- Agile software development has become popular to describe new approaches that focus on close collaboration between programming teams and business experts
- See the last section of this chapter and Chapter 3 for more information on agile

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.
- Early software development projects often used a waterfall approach, as defined earlier in this chapter. As technology and businesses became more complex, the approach was often difficult to use because requirements were unknown or continuously changing.
- Agile today means using a method based on iterative and incremental development, in which requirements and solutions evolve through collaboration.