Chapter 2: The Project Management and Information Technology Context

Information Technology Project Management, Sixth Edition

Note: See the text itself for full citations.

Announcements

- Term Project Info
  - Term project guidelines posted
  - Teams formed *(you should have received an email form bb on your teams, let me know if you are not in a team)*
  - Team submission for ideas due Friday 9/9/22
  - Team submission assignment/form created in BB
- Chapter 2 Lecture, then:
  - Team Breakouts
    - read your guidelines
    - understand them and start thinking about your idea
    - Ask questions by email if you need to,
    - Nominate a person to upload your project idea by 9/9

Learning Objectives

- Describe the systems view of project management and how it applies to information technology 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 (continued)

- 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 information technology projects
- Describe recent trends affecting IT project management, including globalization, outsourcing, and virtual teams

Projects Cannot Run in Isolation

- Projects must operate in a broad organizational environment
- Project managers need to use **systems thinking**:
  - *Taking a holistic view of carrying out projects within the context of the organization*
  - *Must support current business needs*

A Systems View of Project Management

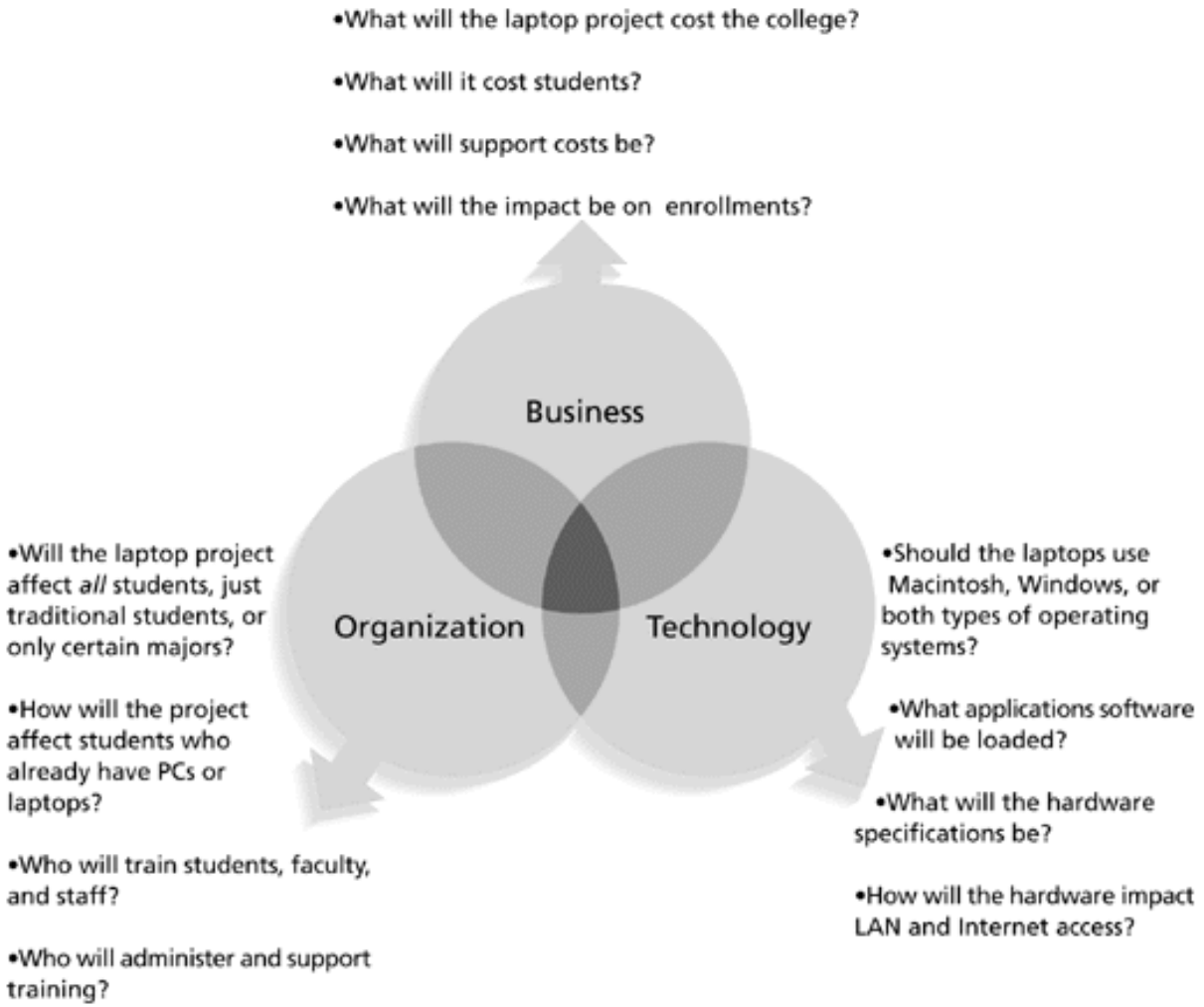
- A **systems approach is** a more analytical approach to management and problem solving

- *3 parts include:*
  - **Systems philosophy**:
  - **Systems analysis**:
  - **Systems management**:

A Systems View of Project Management

- *3 parts explained!*
  - **Systems philosophy**: an overall model for thinking about things as systems – *i.e. the body, a technology, a way things work together like a car or an endocrine system*
  - **Systems analysis**: problem-solving approach *– the way you approach a situation, what questions, what problems need to be addressed*
  - **Systems management**: Once you have systems, you need to manage it - *and think in terms of:*
    - Business
    - Technological
    - and Organizational
      - *This is the 3 sphere model of systems management!*

Figure 2-1. Three Sphere Model for Systems Management



Understanding *"Organizational Dynamics"* – 4 frames

Structural frame: Focuses on roles and responsibilities, coordination and control. Organization charts help define this frame.	**Human resources frame:** Focuses on providing harmony between needs of the organization and needs of people.
Political frame: Assumes organizations are coalitions composed of varied individuals and interest groups. Conflict and power are key issues.	**Symbolic frame:** Focuses on Culture: meanings, symbols, cadence for meetings, dress, punctuality, tone, how the org works etc…

"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 2-2. Functional, Project, and Matrix Organizational Structures

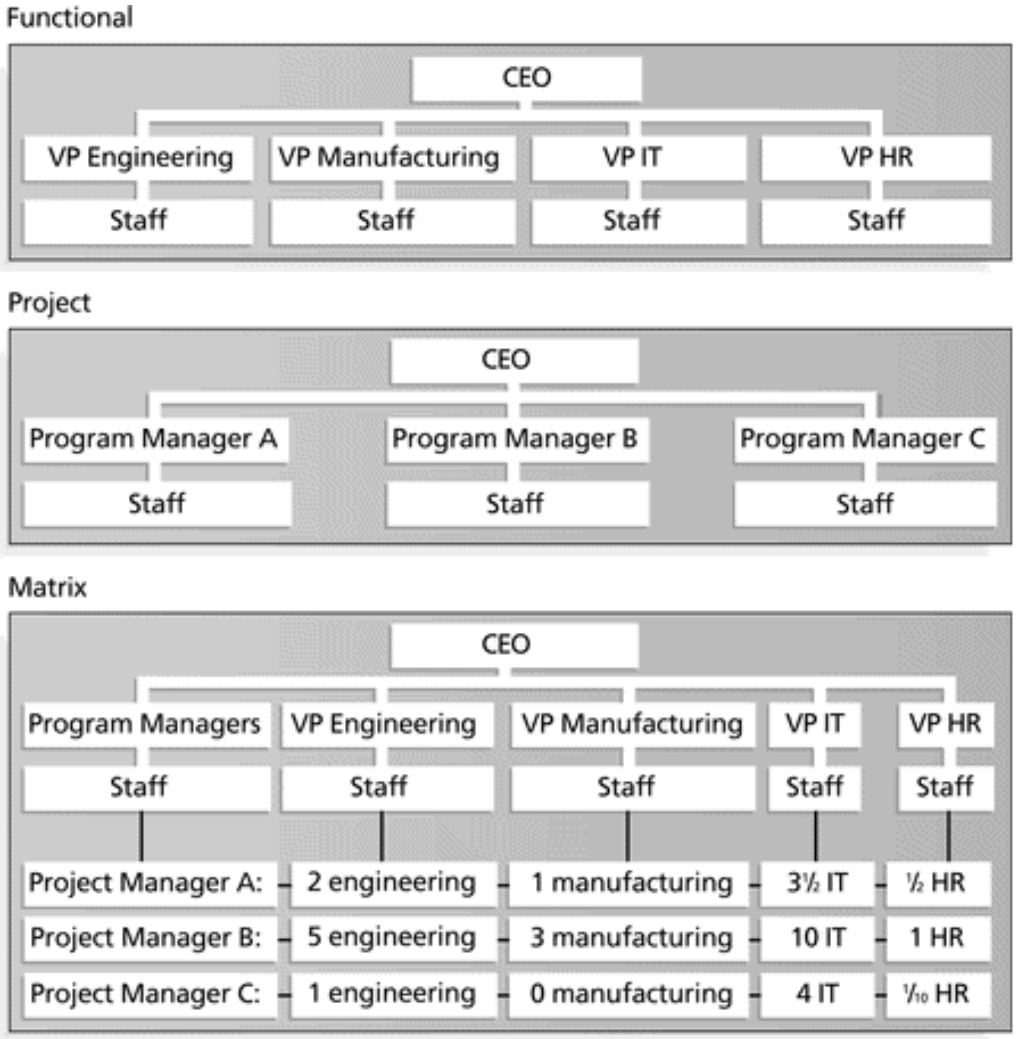


Table 2-1. Organizational Structure and *Influence* on Projects

Project Characteristics	**Organizational Structure Type**				
	Functional	**Matrix**			**Project**
		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 performing 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

PMBOK® Guide, 2000, 19, and *PMBOK® Guide 2004*, 28.

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, but a negative or unbalanced culture

What Went Wrong?

Many enterprise resource planning (ERP) projects fail due to organizational issues, not technical issues. For example, Sobey's Canadian grocery store chain abandoned its two-year, $90 million ERP system due to organizational problems.

"The problem of building an integrated system that can accommodate different people is a very serious challenge. You can't divorce technology from the sociocultural issues. They have an equal role."

Sobey's ERP system shut down for five days, and employees were scrambling to stock potentially empty shelves in several stores for weeks. The system failure cost Sobey's more than $90 million and caused shareholders to take an 82-cent after-tax hit per share.

Stakeholder Management

- Project managers must take time to identify, understand, and manage relationships with all project stakeholders

- Using the four frames, *knowing your org structure (sphere of influence) and understanding the culture* in organizations can help meet stakeholder needs and expectations!!!

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

Project Phases and the Project Life Cycle

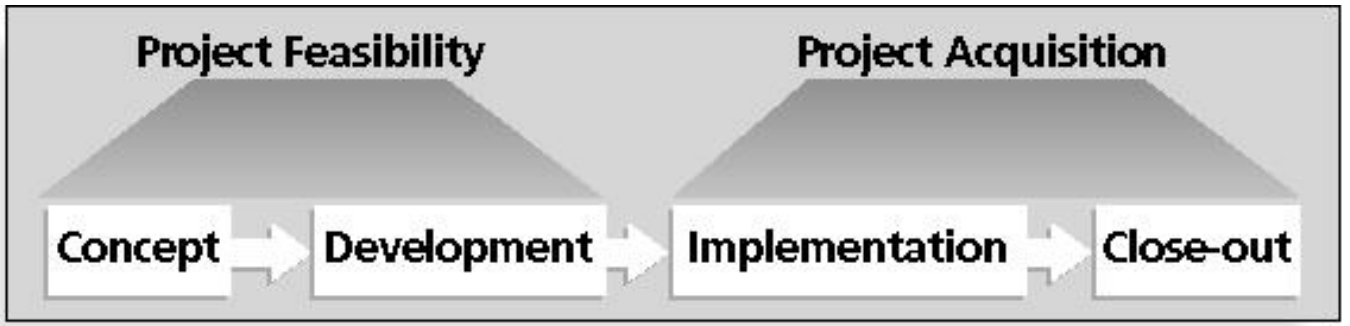
- A **project life cycle** is a collection of project phases that defines:
  - What work will be performed in each phase
  - What deliverables will be produced and
  - When it will be produced
  - Who is involved in each phase
  - How management will control and approve work produced in each phase

- 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*
  - *It can become clearer if you need to terminate as well*
  - *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*

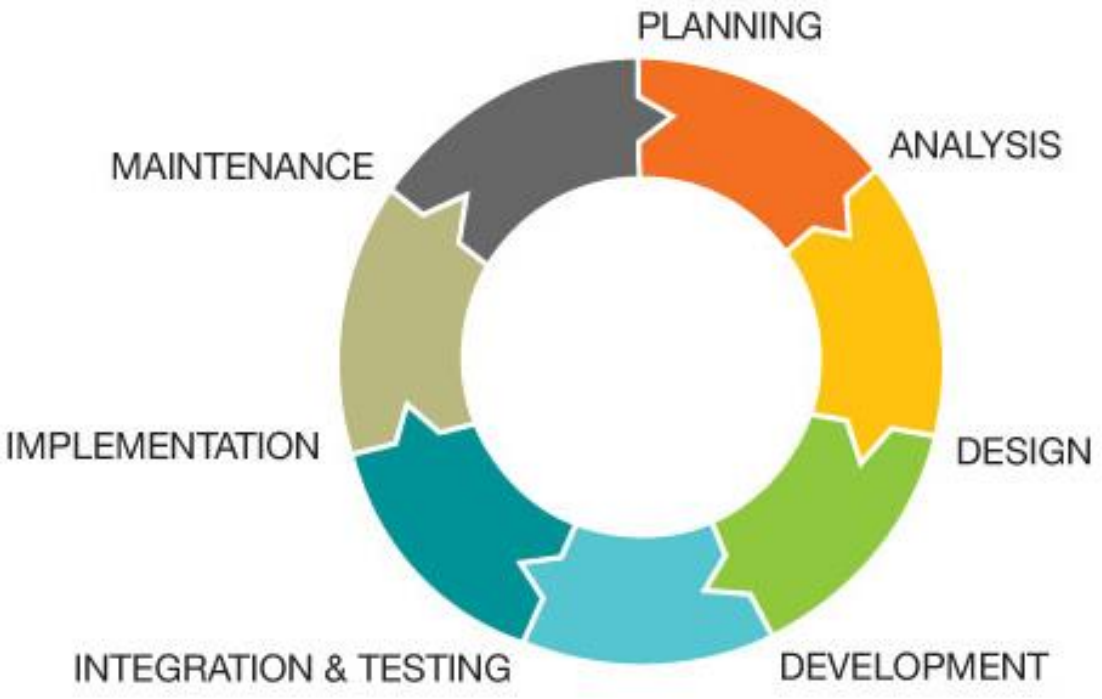
Figure 2-3. Phases of the Traditional Project Life Cycle



Sample deliverables for each phase	Business case	Project management plan	Last work package	Completed work
	Preliminary cost estimate	Budgetary cost estimate	Definitive cost estimate	Lessons learned
	2-level WBS	3+-level WBS	Performance reports	Customer acceptance

SDLC – more advanced then traditional

- The **Systems Development Life Cycle (SDLC):**
  - is a framework, it contains phases involved in developing and maintaining information systems



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** or **kill points**, should occur after each phase to evaluate the project's progress, likely success, and continued compatibility with organizational goals

What Went Right?

"The real improvement that I saw was in our ability to, in the words of Thomas Edison “know when to stop beating a dead horse” Edison's key to success was that he failed fairly often; but as he said, he could recognize a dead horse before it started to smell...

In information technology we tend to ride dead horses, or we stick with a project way to long (if it is failing). We need to be able to recognize a failure in order to reduce cost and time overruns.

Many organizations, use an **executive steering committee** to help keep projects on track and avoid over spend or wasted time on doomed projects.

Predictive Life Cycle Models

- Waterfall model: has well-defined, linear stages of systems development and support – predictive model!

- Prototyping model: used for developing prototypes to clarify user requirements, *build* and change as you go……

- Rapid Application Development (RAD) model: used to produce systems quickly without sacrificing quality, uses tools, proven methods, reusable code/architecture etc…

Agile Software Development

- Agile software development has become popular to describe new approaches that focus on close collaboration between programming teams and business experts
  - Scrum
  - Sprints
  - Iterative
  - Informed
  - Continuous

Things to keep in mind: IT Projects

Keep this in minds when working in project mgmt:

- 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

Project Management & Globalization

- Issues that can arise from crossing time zones:
  - Communications
  - Trust
  - Common work practices
  - Tools
- Suggestions
  - Employ greater project discipline
  - Think global but act local
  - Keep project momentum going (across time zones)
  - Use newer tools and technology

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

Chapter Summary

- 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, and virtual teams