4.1 Project Management Context

2.1 Project Management Context

2.2 Project Management Processes

A Systems View of Project Management

Context

• Projects must operate in a broad organizational environment
• Project managers need to take a holistic or systems view of a project and understand how it is situated within the larger organization
• See example in opening and closing case to illustrate this concept.

A Systems View of Project Management

• A systems approach emerged in the 1950s to describe a more analytical approach to management and problem solving
• Three parts include:
  • Systems philosophy: View things as systems, interacting components working within an environment to fulfill some purpose
  • Systems analysis: problem-solving approach
  • Systems management: Address business, technological, and organizational issues before making changes to systems
Understanding Organizations

**Structural frame:**
Focuses on roles and responsibilities, coordination and control. Organizational charts 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 symbols and meanings related to events. Culture is important.

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**Basic Organizational Structures**

- Functional
- Project
- Matrix

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**Organizational Structure Influences on Projects**

The organizational structure influences the project manager’s authority, but project managers need to remember to address the human resources, political, and symbolic frames, too.

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**The Importance of Project Stakeholders**

- Recall that project stakeholders are the people involved in or affected by project activities.
- 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 are very important stakeholders.

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**Question**

- For the School of IT website, who are all of the project stakeholders?
  - List as many as you can on your own for 1 minute.
  - Compare with a partner for another minute.
Management Commitment

- Project Managers need:
  • Adequate Resources
  • Timely approval for unique project needs
  • Cooperation from people in other parts of the organisation
  • Mentoring and coaching on leadership
- IT Projects need:
  • Commitment to IT in general

A question

- What helps Projects Succeed?
  • Take a minute to make a list and determine priorities
  • state your reasons

Management Standards

- Project Management need tools:
  • Forms and Formats for reporting
  • Plan Templates
  • Guidelines on status information
- Standards are both a toolkit for project managers and a sign of commitment by top management to proper project management

Question

- How can you tell if a project uses standards or not?
- What types of standards would be useful?

Project Phases and the Project Life Cycle

- A project life cycle is a collection of project phases
- Project phases vary by project or industry, but some general phases include
  • concept
  • development
  • implementation
  • support

Phases of the Project Life Cycle
Product Life Cycles

- Products also have life cycles
- The Systems Development Life Cycle (SDLC) is a framework for describing the phases involved in developing and maintaining information systems
- Systems development projects can follow
  - predictive models: the scope of the project can be clearly articulated and the schedule and cost can be predicted
  - adaptive models: projects are mission driven and component based, using time-based cycles to meet target dates

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 release model: provides for progressive development of operational software
- Prototyping model: is used for developing prototypes to clarify user requirements
- RAD model: is used to produce systems quickly without sacrificing quality

Adaptive Life Cycle Models

- Extreme Programming (XP): Developers program in pairs and must write the tests for their own code. XP teams include developers, managers, and users
- Scrum: Repetitions of iterative development are referred to as sprints, which normally last thirty days. Teams often meet every day for a short meeting, called a scrum, to decide what to accomplish that day. Works best for object-oriented technology projects and requires strong leadership to coordinate the work

Question

- Which type of life cycle would be best for:
  - Development of a game
  - Accounts payable system
- Why?

Project Life Cycles vs. Product Life Cycles

- The project life cycle
  - Applies to all projects, regardless of the products being produced
- Product life cycle models
  - Vary considerably based on the nature of the product
  - Most large IT systems are developed as a series of projects
  - Project management is done in all of the product life cycle phases

Why Have Project Phases & Man’gt 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...as a result he had 14,000 patents and was very successful...In IT we ride dead horses—failing projects—a long time before we give up. But what we are seeing now is that we are able to get off them; able to reduce cost overrun and time overrun. That’s where the major impact came on the success rate."


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

Fifteen Project Management Job Functions*

• Define scope of project
• Identify stakeholders, decision-makers, and escalation procedures
• Develop detailed task list (work breakdown structures)
• Estimate time requirements
• Develop initial project management flow chart
• Identify required resources and budget
• Identify and evaluate risks
• Prepare contingency plan
• Identify and track critical milestones
• Participate in project phase review
• Secure needed resources
• Manage the change control process
• Report project status

*Suggested Skills for Project Managers

• Project managers need a wide variety of skills
• They should be comfortable with change, understand the organizations they work in and with, and be able to lead teams to accomplish project goals
• Project managers need both “hard” and “soft” skills. Hard skills include product knowledge and knowing how to use various project management tools and techniques, and soft skills include being able to work with various types of people

Suggested Skills for a Project Manager

• Communication skills: listening, persuading
• Organizational skills: planning, goal-setting, analyzing
• Team Building skills: empathy, motivation, esprit de corps
• Leadership skills: set examples, be energetic, have vision (big picture), delegate, be positive
• Coping skills: flexibility, creativity, patience, persistence
• Technological skills: experience, project knowledge

Question

• What makes a good project manager?
• What makes a good leader?
Revision – Questions from Topic 1

• Is it enough to be a good project manager or do you need to understand the area you are managing?
• For example, could an experience project manager with no IT background manage an IT project?
• Or, a documentation project (e.g. putting together a tender) with no tendering experience?

Effective vs. Ineffective Project Managers

<table>
<thead>
<tr>
<th>Effective Project Managers</th>
<th>Ineffective Project Managers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead by example</td>
<td>Set bad examples</td>
</tr>
<tr>
<td>Are visionaries</td>
<td>Are not self-assured</td>
</tr>
<tr>
<td>Are technically competent</td>
<td>Lack technical expertise</td>
</tr>
<tr>
<td>Are decisive</td>
<td>Are poor communicators</td>
</tr>
<tr>
<td>Are good communicators</td>
<td>Are poor motivators</td>
</tr>
<tr>
<td>Are good motivators</td>
<td></td>
</tr>
<tr>
<td>Stand up to upper</td>
<td></td>
</tr>
<tr>
<td>management when necessary</td>
<td></td>
</tr>
<tr>
<td>Support team members</td>
<td></td>
</tr>
<tr>
<td>Encourage new ideas</td>
<td></td>
</tr>
</tbody>
</table>

A question

• What are the 2 most important character attributes that make an effective IT project manager?

Reading

• Essential
  • Schwalbe Chapter 3
• Recommended
  • PMBOK Chapter 3

Project Management Process

• What is a Project?
  • any undertaking with a defined starting point and defined objectives by which completion is identified. In practice, most projects depend on finite or limited resources by which the objectives are to be accomplished. (Harrison, 1992:10)
• What is a Process?
  • A series of actions directed toward a particular result.
Project Management Process Groups

- Project management can be viewed as a number of interlinked processes
- The project management process groups include:
  - initiating processes
  - planning processes
  - executing processes
  - controlling processes
  - closing processes

Overlap of Process Groups in a Phase

Relationships Among Process Groups & Knowledge Areas

Developing an IT Project Management Methodology

- Just as projects are unique, so are approaches to project management
- Many organizations develop their own project management methodologies, especially for IT projects
- Blue Cross Blue Shield of Michigan used the PMBOK as a guide in developing their IT project management methodology
ITPM Methodology

See figure in text. Note that many parts of this approach map to the PMBOK, but some activities have been changed to meet the needs of the organization.

Case Study: JWD Consulting's Project Management Intranet Site

- This case study provides an example of what's involved in initiating, planning, executing, controlling, and closing an IT project
- You can download templates for creating your own project management documents from the companion Web site for this text
- Note: This case study provides a big picture view of managing a project. Later chapters provide detailed information on each knowledge area.

Project Initiation

- Initiating a project includes recognizing and starting a new project or project phase
- Some organizations use a pre-initiation phase, while others include items like developing a business case as part of initiation
- The main goal is to formally select and start off projects
- Key outputs include:
  - Assigning the project manager
  - Identifying key stakeholders
  - Completing a business case
  - Completing a project charter & getting signatures on it

Project Initiation Documents

- Business case: See pages 74-76
- Charter: See pages 77-78, also shown on next two slides
- Note: Every organization has its own variations of what documents are required for project initiation. It's important to identify the need for projects, who the stakeholders are, and what the main goals are for the project

JWD's Project Charter

<table>
<thead>
<tr>
<th>Task</th>
<th>Responsible</th>
<th>Priority</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiate Project Plan</td>
<td>John Smith</td>
<td>High</td>
<td>New project planning needed</td>
</tr>
<tr>
<td>Identify Key Stakeholders</td>
<td>Jane Doe</td>
<td>Medium</td>
<td>Stakeholder analysis required</td>
</tr>
<tr>
<td>Complete Business Case</td>
<td>Mike Johnson</td>
<td>Low</td>
<td>Detailed market research required</td>
</tr>
<tr>
<td>Complete Project Charter</td>
<td>Sarah Lee</td>
<td>Very Low</td>
<td>Project scope and objectives defined</td>
</tr>
</tbody>
</table>

JWD’s Project Charter

Table JWD Project Charter:

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Phone</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>John</td>
<td>Project</td>
<td>555-1234</td>
<td><a href="mailto:john@jwdconsulting.com">john@jwdconsulting.com</a></td>
</tr>
<tr>
<td>Jane</td>
<td>Manager</td>
<td>555-4567</td>
<td><a href="mailto:jane@jwdconsulting.com">jane@jwdconsulting.com</a></td>
</tr>
<tr>
<td>Mike</td>
<td>Consultant</td>
<td>555-7890</td>
<td><a href="mailto:mike@jwdconsulting.com">mike@jwdconsulting.com</a></td>
</tr>
<tr>
<td>Sarah</td>
<td>Analyst</td>
<td>555-2345</td>
<td><a href="mailto:sarah@jwdconsulting.com">sarah@jwdconsulting.com</a></td>
</tr>
</tbody>
</table>

Comments: This case study provides a big picture view of managing a project. Later chapters provide detailed information on each knowledge area.
Project Planning

- The main purpose of project planning is to guide execution
- Every knowledge area includes planning information (see Table 3-5 on pages 79-80)
- Key outputs include:
  - A team contract
  - A scope statement
  - A work breakdown structure (WBS)
  - A project schedule, in the form of a Gantt chart with all dependencies and resources entered
  - A list of prioritized risks
- See sample documents on pages 83-90, and refer to them later in the course

JWD’s Project Gantt Chart

<table>
<thead>
<tr>
<th>Project</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>JWD</td>
<td>March 1</td>
<td>April 30</td>
</tr>
</tbody>
</table>

Table 3.6: List of Prioritized Risks

<table>
<thead>
<tr>
<th>RANKING</th>
<th>POTENTIAL RISK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lack of inputs from internal customers</td>
</tr>
<tr>
<td>2</td>
<td>Lack of inputs from other stakeholders</td>
</tr>
<tr>
<td>3</td>
<td>Security of new system</td>
</tr>
<tr>
<td>4</td>
<td>Outsourcing the article review and “Ask the Expert” features</td>
</tr>
<tr>
<td>5</td>
<td>Outsourcing the procurements of equipment and components</td>
</tr>
<tr>
<td>6</td>
<td>Organizing the templates and examples to a useful library</td>
</tr>
<tr>
<td>7</td>
<td>Providing an efficient search feature</td>
</tr>
<tr>
<td>8</td>
<td>Getting good feedback from Michael Cheng and other senior consultants</td>
</tr>
<tr>
<td>9</td>
<td>Effectively documenting the new system</td>
</tr>
<tr>
<td>10</td>
<td>Notifying the level of the new system within one year</td>
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JWD’s List of Prioritized Risks

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Project Executing

- It usually takes the most time and resources to perform project execution since the products of the project are produced here
- The most important output of execution is work results
- Project managers must use their leadership skills to handle the many challenges that occur during project execution

Project Controlling

- Controlling involves measuring progress toward project objectives, monitoring deviations from the plan, and taking corrective actions
- Controlling affects all other process groups and occurs during all phases of the project life cycle
- Status and progress reports are important outputs of controlling

Project Closing

- The closing process involves gaining stakeholder and customer acceptance of the final product and bringing the project, or project phase, to an orderly end
- Even if projects are not completed, they should be closed out to learn from the past
- Project archives and lessons learned are important outputs. Most projects include a final report and presentations
Post-Project Follow-up

• Many organizations have realized that it’s important to review the results of projects a year or so after they have been completed.
• Many projects project potential savings, so it’s important to review the financial estimates and help learn from the past in preparing new estimates.