Learning Objectives

- Describe an overall framework for project integration management as it relates to the other PM knowledge areas and the project life cycle
- Explain the strategic planning process and apply different project selection methods
- Explain the importance of creating a project charter to formally initiate projects
Learning Objectives (continued)

- Describe project management plan development, understand the content of these plans, and review approaches for creating them.
- Explain project execution, its relationship to project planning, the factors related to successful results, and tools and techniques to assist in project execution.
- Describe the process of monitoring and controlling project work.
Learning Objectives (continued)

- Understand the integrated change control process, planning for and managing changes on information technology projects, and developing and using a change control system
- Explain the importance of developing and following good procedures for closing projects
- Describe how software can assist in project integration management
The Key to Overall Project Success: Good Project Integration Management

- Project managers must coordinate all of the other knowledge areas throughout a project’s life cycle.
- Many new project managers have trouble looking at the “big picture” and want to focus on too many details (see opening case for a real example).
- Project integration management is not the same thing as software integration.
Project Integration Management Processes

- **Develop the project charter**: working with stakeholders to create the document that formally authorizes a project—the charter
- **Develop the project management plan**: coordinating all planning efforts to create a consistent, coherent document—the project management plan
- **Direct and manage project execution**: carrying out the project management plan by performing the activities included in it
Project Integration Management Processes (continued)

- **Monitor and control the project work:** overseeing project work to meet the performance objectives of the project
- **Perform integrated change control:** coordinating changes that affect the project’s deliverables and organizational process assets
- **Close the project or phase:** finalizing all project activities to formally close the project or phase
Figure 4-1. Project Integration Management Summary

- **Initiating**
  - Process: Develop project charter
  - Output: Project charter

- **Planning**
  - Process: Develop project management plan
  - Output: Project management plan

- **Executing**
  - Process: Direct and manage project execution
  - Outputs: Deliverables, work performance information, change requests, project management plan updates, project document updates

- **Monitoring and Controlling**
  - Process: Monitor and control project work
  - Outputs: Change requests, project management plan updates, project document updates
  - Process: Perform integrated change control
  - Outputs: Change request status updates, project management plan updates, project document updates

- **Closing**
  - Process: Close project or phase
  - Outputs: Final product, service, or result transition; organizational process assets updates

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*Information Technology Project Management, Sixth Edition*
What Went Wrong?

- The Airbus A380 megajet project was two years behind schedule in Oct. 2006, causing Airbus’ parent company to face an expected loss of $6.1 billion over the next four years.

- The project suffered from severe integration management problems, or “integration disintegration...Early this year, when pre-assembled bundles containing hundreds of miles of cabin wiring were delivered from a German factory to the assembly line in France, workers discovered that the bundles, called harnesses, didn't fit properly into the plane. Assembly slowed to a near-standstill, as workers tried to pull the bundles apart and re-thread them through the fuselage. Now Airbus will have to go back to the drawing board and redesign the wiring system.”*

*Matlack, Carol. “First, Blame the Software,” BusinessWeek Online (October 5, 2006).
Strategic Planning and Project Selection

- **Strategic planning** involves determining long-term objectives, predicting future trends, and projecting the need for new products and services.

- Organizations often perform a **SWOT analysis**:
  - Analyzing *Strengths*, *Weaknesses*, *Opportunities*, and *Threats*.

- As part of strategic planning, organizations:
  - Identify potential projects.
  - Use realistic methods to select which projects to work on.
  - Formalize project initiation by issuing a project charter.
Figure 4-2. Mind Map of a SWOT Analysis to Help Identify Potential Projects
Figure 4-3. Information Technology Planning Process

- **Information Technology Planning Stages**
  - Information Technology Strategy Planning
  - Business Area Analysis
  - Project Planning
  - Resource Allocation

- **Results Produced**
  - Tie information technology strategy to mission and vision of organization. Identify key business areas.
  - Document key business processes that could benefit from information technology.
  - Define potential projects. Define project scope, benefits, and constraints.
  - Select information technology projects. Assign resources.
Only one in seven product concepts comes to fruition; why is it that some companies like Proctor & Gamble, Johnson and Johnson, Hewlett Packard, and Sony are consistently successful in NPD?

Because they use a disciplined, systematic approach to NPD projects based on best practices

Four important forces behind NPD success include the following:

1. A product innovation and technology strategy for the business
2. Resource commitment and focusing on the right projects, or solid portfolio management
3. An effective, flexible, and streamlined idea-to-launch process
4. The right climate and culture for innovation, true cross-functional teams, and senior management commitment to NPD
Methods for Selecting Projects

There are usually more projects than available time and resources to implement them.

Methods for selecting projects include:

- Focusing on broad organizational needs
- Categorizing information technology projects
- Performing net present value or other financial analyses
- Using a weighted scoring model
- Implementing a balanced scorecard
Focusing on Broad Organizational Needs

- It is often difficult to provide strong justification for many IT projects, but everyone agrees they have a high value
- “It is better to measure gold roughly than to count pennies precisely”
- Three important criteria for projects:
  - There is a need for the project
  - There are funds available
  - There’s a strong will to make the project succeed
Categorizing IT Projects

- One categorization is whether the project addresses:
  - A problem
  - An opportunity, or
  - A directive

- Another categorization is how long it will take to do and when it is needed

- Another is the overall priority of the project
Financial Analysis of Projects

- Financial considerations are often an important consideration in selecting projects
- Three primary methods for determining the projected financial value of projects:
  - Net present value (NPV) analysis
  - Return on investment (ROI)
  - Payback analysis
Net Present Value Analysis

- **Net present value** (NPV) analysis is a method of calculating the expected net monetary gain or loss from a project by discounting all expected future cash inflows and outflows to the present point in time.
- Projects with a positive NPV should be considered if financial value is a key criterion.
- The higher the NPV, the better.
## Figure 4-4. Net Present Value Example

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Discount rate</td>
<td>10%</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td><strong>PROJECT 1</strong></td>
<td><strong>YEAR 1</strong></td>
<td><strong>YEAR 2</strong></td>
<td><strong>YEAR 3</strong></td>
<td><strong>YEAR 4</strong></td>
<td><strong>YEAR 5</strong></td>
<td><strong>TOTAL</strong></td>
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<tr>
<td>4</td>
<td>Benefits</td>
<td>$0</td>
<td>$2,000</td>
<td>$3,000</td>
<td>$4,000</td>
<td>$5,000</td>
<td>$14,000</td>
</tr>
<tr>
<td>5</td>
<td>Costs</td>
<td>$5,000</td>
<td>$1,000</td>
<td>$1,000</td>
<td>$1,000</td>
<td>$1,000</td>
<td>$9,000</td>
</tr>
<tr>
<td>6</td>
<td>Cash flow</td>
<td>($5,000)</td>
<td>$1,000</td>
<td>$2,000</td>
<td>$3,000</td>
<td>$4,000</td>
<td>$5,000</td>
</tr>
<tr>
<td>7</td>
<td>NPV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>$2,316</strong></td>
</tr>
<tr>
<td>8</td>
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<td>Formula =npv(b1,b6:f6)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td><strong>PROJECT 2</strong></td>
<td><strong>YEAR 1</strong></td>
<td><strong>YEAR 2</strong></td>
<td><strong>YEAR 3</strong></td>
<td><strong>YEAR 4</strong></td>
<td><strong>YEAR 5</strong></td>
<td><strong>TOTAL</strong></td>
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<tr>
<td>11</td>
<td>Benefits</td>
<td>$1,000</td>
<td>$2,000</td>
<td>$4,000</td>
<td>$4,000</td>
<td>$4,000</td>
<td>$15,000</td>
</tr>
<tr>
<td>12</td>
<td>Costs</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>13</td>
<td>Cash flow</td>
<td>($1,000)</td>
<td>$0</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$2,000</td>
<td>$5,000</td>
</tr>
<tr>
<td>14</td>
<td>NPV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>$3,201</strong></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Note that totals are equal, but NPVs are not because of the time value of money.
### Figure 4-5. JWD Consulting NPV Example

<table>
<thead>
<tr>
<th>Discount rate</th>
<th>8%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assume the project is completed in Year 0</td>
<td>Year</td>
</tr>
<tr>
<td>Costs</td>
<td>0</td>
</tr>
<tr>
<td>140,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Discount factor</td>
<td>1</td>
</tr>
<tr>
<td>Discounted costs</td>
<td>140,000</td>
</tr>
<tr>
<td>Benefits</td>
<td>0</td>
</tr>
<tr>
<td>Discount factor</td>
<td>1</td>
</tr>
<tr>
<td>Discounted benefits</td>
<td>0</td>
</tr>
<tr>
<td>Discounted benefits - costs</td>
<td>(140,000)</td>
</tr>
<tr>
<td>Cumulative benefits - costs</td>
<td>(140,000)</td>
</tr>
<tr>
<td>ROI</td>
<td>112%</td>
</tr>
</tbody>
</table>

Note: See the template called business_case_financials.xls
NPV Calculations

- Determine estimated costs and benefits for the life of the project and the products it produces
- Determine the discount rate (check with your organization on what to use)
- Calculate the NPV (see text for details)
- Notes: Some organizations consider the investment year as year 0, while others start in year 1; some people enter costs as negative numbers, while others do not
  - Check with your organization for their preferences
Return on Investment

- **Return on investment (ROI)** is calculated by subtracting the project costs from the benefits and then dividing by the costs:
  \[
  \text{ROI} = \frac{\text{total discounted benefits} - \text{total discounted costs}}{\text{discounted costs}}
  \]
- The higher the ROI, the better
- Many organizations have a **required rate of return** or minimum acceptable rate of return on investment for projects
- **Internal rate of return (IRR)** can be calculated by finding the discount rate that makes the NPV equal to zero
Payback Analysis

- Another important financial consideration is payback analysis.
- The **payback period** is the amount of time it will take to recoup, in the form of net cash inflows, the total dollars invested in a project. Payback occurs when the net cumulative discounted benefits equals the costs.
- Many organizations want IT projects to have a fairly short payback period.
Figure 4-6. Charting the Payback Period

![Payback chart showing cumulative costs and cumulative benefits over the years 0 to 3. The chart indicates a growing trend in payback.]
A weighted scoring model is a tool that provides a systematic process for selecting projects based on many criteria:

- Identify criteria important to the project selection process.
- Assign weights (percentages) to each criterion so they add up to 100%.
- Assign scores to each criterion for each project.
- Multiply the scores by the weights and get the total weighted scores.

The higher the weighted score, the better.
Figure 4-7. Sample Weighted Scoring Model for Project Selection

<table>
<thead>
<tr>
<th>Criteria</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Supports key business objectives</td>
<td></td>
<td>Weight</td>
<td>Project 1</td>
<td>Project 2</td>
<td>Project 3</td>
<td>Project 4</td>
</tr>
<tr>
<td>2 Has strong internal sponsor</td>
<td></td>
<td>25%</td>
<td>90</td>
<td>90</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>3 Has strong customer support</td>
<td></td>
<td>15%</td>
<td>70</td>
<td>90</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>4 Uses realistic level of technology</td>
<td></td>
<td>15%</td>
<td>50</td>
<td>90</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>5 Can be implemented in one year or less</td>
<td></td>
<td>10%</td>
<td>25</td>
<td>90</td>
<td>50</td>
<td>70</td>
</tr>
<tr>
<td>6 Provides positive NPV</td>
<td></td>
<td>5%</td>
<td>20</td>
<td>20</td>
<td>50</td>
<td>90</td>
</tr>
<tr>
<td>7 Has low risk in meeting scope, time, and cost goals</td>
<td></td>
<td>20%</td>
<td>50</td>
<td>70</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>8 Weighted Project Scores</td>
<td></td>
<td>100%</td>
<td>58</td>
<td>78.5</td>
<td>50</td>
<td>41.5</td>
</tr>
</tbody>
</table>

Weighted Score by Project

- Project 4
- Project 3
- Project 2
- Project 1
Implementing a Balanced Scorecard

- Drs. Robert Kaplan and David Norton developed this approach to help select and manage projects that align with business strategy

- **A balanced scorecard:**
  - Is a methodology that converts an organization’s value drivers, such as customer service, innovation, operational efficiency, and financial performance, to a series of defined metrics

- See www.balancedscorecard.org for more information
Figure 4-8. Balanced Scorecard Example

**Mission:** Provide responsive, professional finance and accounting services for the people who defend America

**Vision:** Best Value to our customers
- World-class provider of finance and accounting services
- Trusted, innovative financial partner
- One Organization, One Identity
- Employer of choice, providing a progressive and professional work environment

**Goals**
- Fully satisfy customer requirements and aggressively resolve problems to deliver best value services
- Use performance metrics to drive best business practices and achieve high quality results
- Optimize the mix of our military, civilian, and contractor workforce
- Establish consultative relationships with leaders
- Deliver business intelligence to enable better decisions
- Ensure everyone is working towards the same vision and can connect what they’re doing to make that vision a reality
- Embrace continuous learning for our workforce to ensure critical, high quality skill sets
- Develop the next generation of DFAS leadership

**CUSTOMER PERSPECTIVE**
- Improve client/customer satisfaction

**FINANCIAL PERSPECTIVE**
- Reduce cost to the client/customer
- Expand the use of competitive sourcing

**INTERNAL PERSPECTIVE**
- Improve and leverage quality
- Encourage innovation
- Deliver system solutions

**GROWTH & LEARNING PERSPECTIVE**
- Enhance employee competence
- Increase employee satisfaction
- Enhance ability to recruit and retain DFAS talent
- Develop climate for action
Project Charters

- After deciding what project to work on, it is important to let the rest of the organization know.
- A *project charter* is a document that formally recognizes the existence of a project and provides direction on the project’s objectives and management.
- Key project stakeholders should sign a project charter to acknowledge agreement on the need and intent of the project; a signed charter is a key output of project integration management.
## Table 4-1. Project Charter for the DNA-Sequencing Instrument Completion Project

<table>
<thead>
<tr>
<th>Project Title: DNA-Sequencing Instrument Completion Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Authorization: February 1</td>
</tr>
<tr>
<td>Project Start Date: February 1</td>
</tr>
<tr>
<td>Projected Finish Date: November 1</td>
</tr>
</tbody>
</table>

**Key Schedule Milestones:**

- Complete first version of the software by June 1
- Complete production version of the software by November 1

**Budget Information:** The firm has allocated $1.5 million for this project, and more funds are available if needed. The majority of costs for this project will be internal labor. All hardware will be outsourced.

**Project Manager:** Nick Carson, (650) 949-0707, nearson@dnaconsulting.com

**Project Objectives:** The DNA-sequencing instrument project has been underway for three years. It is a crucial project for our company. This is the first charter for the project, and the objective is to complete the first version of the software for the instrument in four months and a production version in nine months.

**Main Project Success Criteria:** The software must meet all written specifications, be thoroughly tested, and be completed on time. The CEO will formally approve the project with advice from other key stakeholders.
Table 4-1. Charter (continued)

Approach:
- Hire a technical replacement for Nick Carson and a part-time assistant as soon as possible.
- Within one month, develop a clear work breakdown structure, scope statement, and Gantt chart detailing the work required to complete the DNA sequencing instrument.
- Purchase all required hardware upgrades within two months.
- Hold weekly progress review meetings with the core project team and the sponsor.
- Conduct thorough software testing per the approved test plans.

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Position</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ahmed Abrams</td>
<td>Sponsor</td>
<td>CEO</td>
<td><a href="mailto:aabrams@dnaconsulting.com">aabrams@dnaconsulting.com</a></td>
</tr>
<tr>
<td>Nick Carson</td>
<td>Project Manager</td>
<td>Manager</td>
<td><a href="mailto:ncarson@dnaconsulting.com">ncarson@dnaconsulting.com</a></td>
</tr>
<tr>
<td>Susan Johnson</td>
<td>Team Member</td>
<td>DNA expert</td>
<td><a href="mailto:sjohnson@dnaconsulting.com">sjohnson@dnaconsulting.com</a></td>
</tr>
<tr>
<td>Renyong Chi</td>
<td>Team Member</td>
<td>Testing expert</td>
<td><a href="mailto:rchi@dnaconsulting.com">rchi@dnaconsulting.com</a></td>
</tr>
<tr>
<td>Erik Haus</td>
<td>Team Member</td>
<td>Programmer</td>
<td><a href="mailto:ehaus@dnaconsulting.com">ehaus@dnaconsulting.com</a></td>
</tr>
<tr>
<td>Bill Strom</td>
<td>Team Member</td>
<td>Programmer</td>
<td><a href="mailto:bstrom@dnaconsulting.com">bstrom@dnaconsulting.com</a></td>
</tr>
<tr>
<td>Maggie Elliot</td>
<td>Team Member</td>
<td>Programmer</td>
<td><a href="mailto:meliot@dnaconsulting.com">meliot@dnaconsulting.com</a></td>
</tr>
</tbody>
</table>

Sign-off: (Signatures of all the above stakeholders)
Ahmed Abrams
Susan Johnson
Erik Haus
Maggie Elliot
Nick Carson
Renyong Chi
Bill Strom

Comments: (Handwritten or typed comments from above stakeholders, if applicable)

“I want to be heavily involved in this project. It is crucial to our company’s success, and I expect everyone to help make it succeed.” —Ahmed Abrams

“The software test plans are complete and well documented. If anyone has questions, do not hesitate to contact me.” —Renyong Chi
Project Management Plans

- A project management plan is a document used to coordinate all project planning documents and help guide a project’s execution and control.
- Plans created in the other knowledge areas are subsidiary parts of the overall project management plan.
Common Elements of a Project Management Plan

- Introduction or overview of the project
- Description of how the project is organized
- Management and technical processes used on the project
- Work to be done, schedule, and budget information
Table 4-2. Sample Contents for a Software Project Management Plan (SPMP)

<table>
<thead>
<tr>
<th>MAJOR SECTION HEADINGS</th>
<th>SECTION TOPICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>Purpose, scope, and objectives; assumptions and constraints; project deliverables; schedule and budget summary; evolution of the plan</td>
</tr>
<tr>
<td>Project Organization</td>
<td>External interfaces; internal structure; roles and responsibilities</td>
</tr>
<tr>
<td>Managerial Process Plan</td>
<td>Start-up plans (estimation, staffing, resource acquisition, and project staff training plans); work plan (work activities, schedule, resource, and budget allocation); control plan; risk management plan; closeout plan</td>
</tr>
<tr>
<td>Technical Process Plans</td>
<td>Process model; methods, tools, and techniques; infrastructure plan; product acceptance plan</td>
</tr>
<tr>
<td>Supporting Process Plans</td>
<td>Configuration management plan; verification and validation plan; documentation plan; quality assurance plan; reviews and audits; problem resolution plan; subcontractor management plan; process improvement plan</td>
</tr>
</tbody>
</table>

What the Winners Do

"The winners clearly spell out what needs to be done in a project, by whom, when, and how. For this they use an integrated toolbox, including PM tools, methods, and techniques…If a scheduling template is developed and used over and over, it becomes a repeatable action that leads to higher productivity and lower uncertainty. Sure, using scheduling templates is neither a breakthrough nor a feat. But laggards exhibited almost no use of the templates. Rather, in constructing schedules their project managers started with a clean sheet, a clear waste of time.”*

Project Execution

- Project execution involves managing and performing the work described in the project management plan.
- The majority of time and money is usually spent on execution.
- The application area of the project directly affects project execution because the products of the project are produced during execution.
Coordinating Planning and Execution

- Project planning and execution are intertwined and inseparable activities
- Those who will do the work should help to plan the work
- Project managers must solicit input from the team to develop realistic plans
Providing Leadership and a Supportive Culture

- Project managers must lead by example to demonstrate the importance of creating and then following good project plans.
- Organizational culture can help project execution by:
  - Providing guidelines and templates
  - Tracking performance based on plans
- Project managers may still need to break the rules to meet project goals, and senior managers must support those actions.
Important Skills for Project Execution

- General management skills like leadership, communication, and political skills
- Product, business, and application area skills and knowledge
- Use of specialized tools and techniques
Project Execution Tools and Techniques

- **Expert judgment**: experts can help project managers and their teams make many decisions related to project execution

- **Project management information systems**: there are hundreds of project management software products available on the market today, and many organizations are moving toward powerful enterprise project management systems that are accessible via the Internet

- See the What Went Right? example of Kuala Lumpur’s Integrated Transport Information System on p. 159
Monitoring and Controlling Project Work

- Changes are inevitable on most projects, so it’s important to develop and follow a process to monitor and control changes
- Monitoring project work includes collecting, measuring, and disseminating performance information
- A **baseline** is the approved project management plan plus approved changes
The 2002 Olympic Winter Games and Paralympics took five years to plan and cost more than $1.9 billion. PMI awarded the Salt Lake Organizing Committee (SLOC) the Project of the Year award for delivering world-class games.

Four years before the Games began, the SLOC used a Primavera software-based system with a cascading color-coded WBS to integrate planning...The SLOC also used an Executive Roadmap, a one-page list of the top 100 Games-wide activities, to keep executives apprised of progress. Activities were tied to detailed project information within each department’s schedule. A 90-day highlighter showed which managers were accountable for each integrated activity.

Fraser Bullock, SLOC Chief Operating Officer and Chief, said, “We knew when we were on and off schedule and where we had to apply additional resources. The interrelation of the functions meant they could not run in isolation—it was a smoothly running machine.”*

Integrated Change Control

Three main objectives are:

- Influencing the factors that create changes to ensure that changes are beneficial
- Determining that a change has occurred
- Managing actual changes as they occur
Change Control on Information Technology Projects

- Former view: the project team should strive to do exactly what was planned on time and within budget
- Problem: stakeholders rarely agreed up-front on the project scope, and time and cost estimates were inaccurate
- Modern view: project management is a process of constant communication and negotiation
- Solution: changes are often beneficial, and the project team should plan for them
Change Control System

- A formal, documented process that describes when and how official project documents and work may be changed
- Describes who is authorized to make changes and how to make them
Change Control Board (CCB)

- A formal group of people responsible for approving or rejecting changes on a project
- CCBs provide guidelines for preparing change requests, evaluate change requests, and manage the implementation of approved changes
- Includes stakeholders from the entire organization
Making Timely Changes

- Some CCBs only meet occasionally, so it may take too long for changes to occur.
- Some organizations have policies in place for time-sensitive changes:
  - “48-hour policy” allows project team members to make decisions; then they have 48 hours to reverse the decision pending senior management approval.
  - Delegate changes to the lowest level possible, but keep everyone informed of changes.
Configuration Management

- Ensures that the descriptions of the project’s products are correct and complete
- Involves identifying and controlling the functional and physical design characteristics of products and their support documentation
- Configuration management specialists identify and document configuration requirements, control changes, record and report changes, and audit the products to verify conformance to requirements
- See www.icmhq.com for more information
Table 4-3. Suggestions for Performing Integrated Change Control

<table>
<thead>
<tr>
<th>Suggestion</th>
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<tbody>
<tr>
<td>View project management as a process of constant communication and negotiation.</td>
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<tr>
<td>Plan for change.</td>
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<tr>
<td>Establish a formal change control system, including a change control board (CCB).</td>
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<tr>
<td>Use effective configuration management.</td>
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<tr>
<td>Define procedures for making timely decisions on smaller changes.</td>
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<tr>
<td>Use written and oral performance reports to help identify and manage change.</td>
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<tr>
<td>Use project management and other software to help manage and communicate changes.</td>
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<tr>
<td>Focus on leading the project team and meeting overall project goals and expectations.</td>
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</tbody>
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Closing Projects and Phases

- To close a project or phase, you must finalize all activities and transfer the completed or cancelled work to the appropriate people.
- Main outputs include:
  - Final product, service, or result transition
  - Organizational process asset updates
Using Software to Assist in Project Integration Management

Several types of software can be used to assist in project integration management

- Documents can be created with word processing software
- Presentations are created with presentation software
- Tracking can be done with spreadsheets or databases
- Communication software like e-mail and Web authoring tools facilitate communications
- Project management software can pull everything together and show detailed and summarized information
- Business Service Management (BSM) tools track the execution of business process flows
Project integration management involves coordinating all of the other knowledge areas throughout a project’s life cycle.

Main processes include:

- Develop project charter
- Develop project management plan
- Direct and manage project execution
- Monitor and control project work
- Perform integrated change control
- Close the project or phase