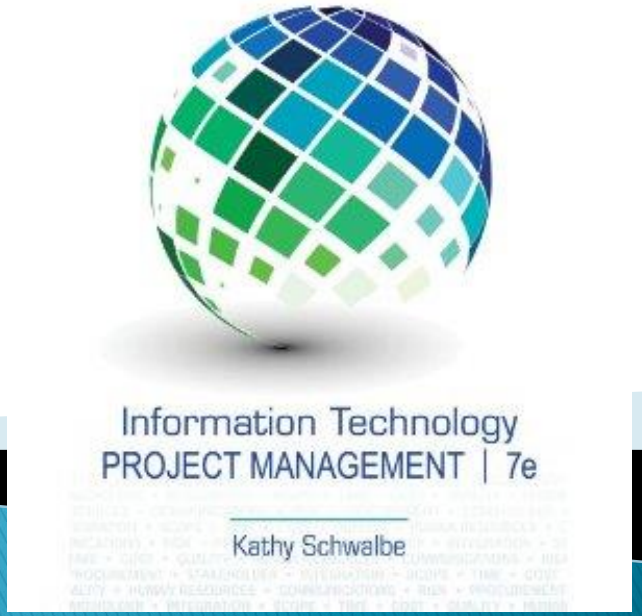
Chapter 4: Project Integration Management

Information Technology Project Management, Seventh Edition



Note: See the text itself for full citations.

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**

Table 3-1. Project Management Process Groups and Knowledge Area Mapping*

Knowledge Areas	Project Management Process Groups				
	Initiating Process Group	Planning Process Group	Executing Process Group	Monitoring and Controlling Process Group	Closing Process Group
4. Project Integration Management	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Work	4.4 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 Close Project or Phase
5. Project Scope Management		5.1 Plan Scope Management 5.2 Collect Requirements 5.3 Define Scope 5.4 Create WBS		5.5 Validate Scope 5.6 Control Scope	
6. Project Time Management		6.1 Plan Schedule Management 6.2 Define Activities 6.3 Sequence Activities 6.4 Estimate Activity Resources 6.5 Estimate Activity Durations 6.6 Develop Schedule		6.7 Control Schedule	

*Source: PMBOK® Guide, Fifth Edition, 2012.

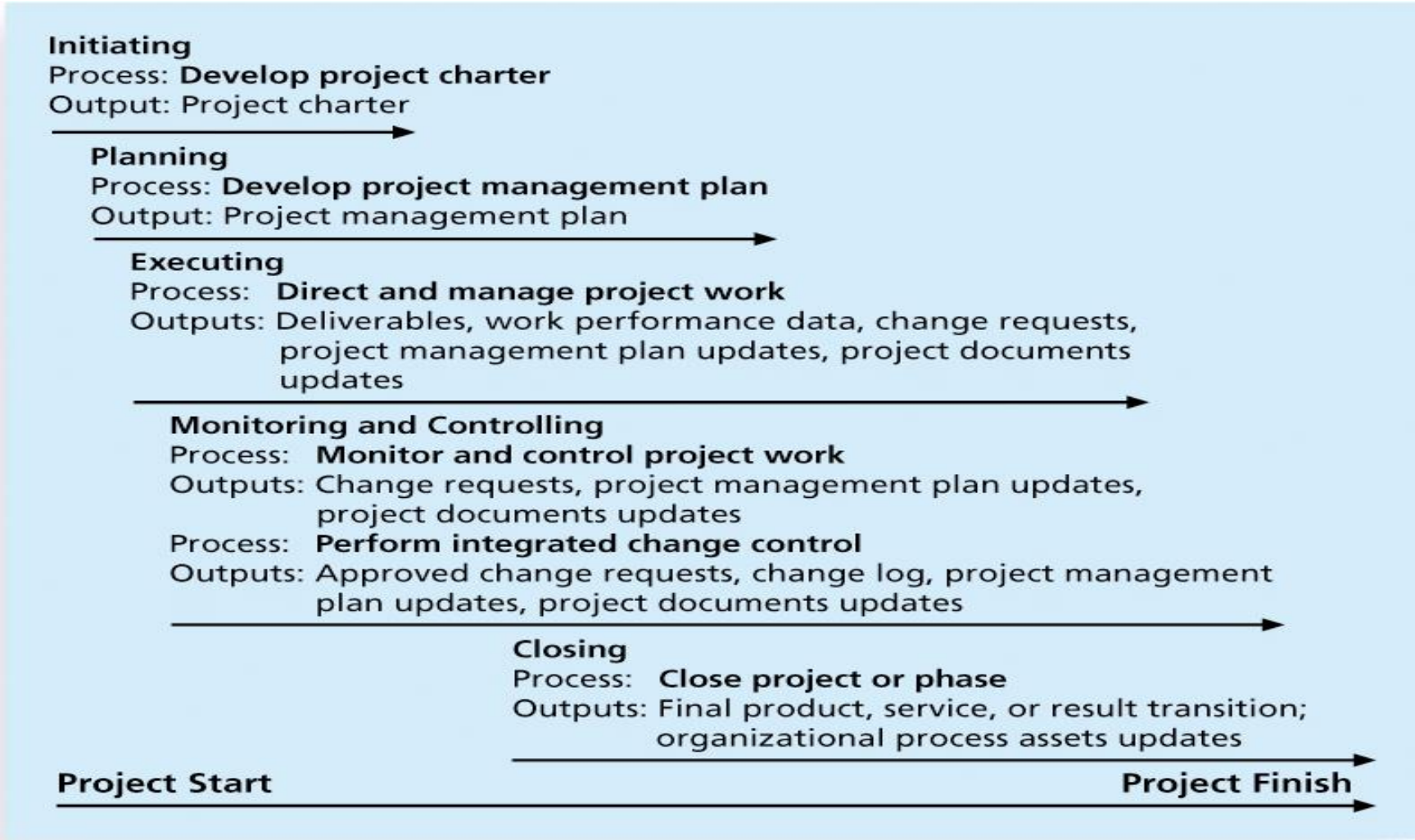
Project Integration Management Processes

- 1. **Developing the project charter** involves working with stakeholders to create the document that formally authorizes a project—the charter.
- 2. **Developing the project management plan** involves coordinating all planning efforts to create a consistent, coherent document—the project management plan.
- 3. **Directing and managing project work** involves carrying out the project management plan by performing the activities included in it.

Project Integration Management Processes (cont'd)

- **Monitoring and controlling project work** involves overseeing activities to meet the performance objectives of the project
- **Performing integrated change control** involves identifying, evaluating, and managing changes throughout the project life cycle.
- **Closing the project or phase** involves finalizing all activities to formally close the project or phase.

Figure 4-1. Project Integration Management Summary



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 **S**trengths, **W**eaknesses, **O**pportunities, and **T**hreats
- 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

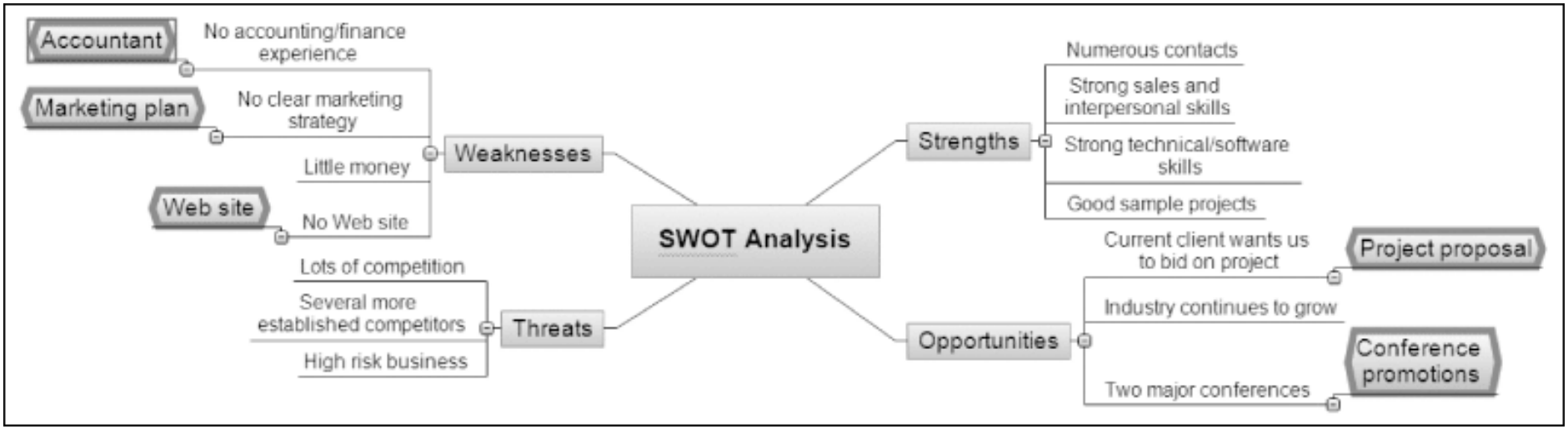
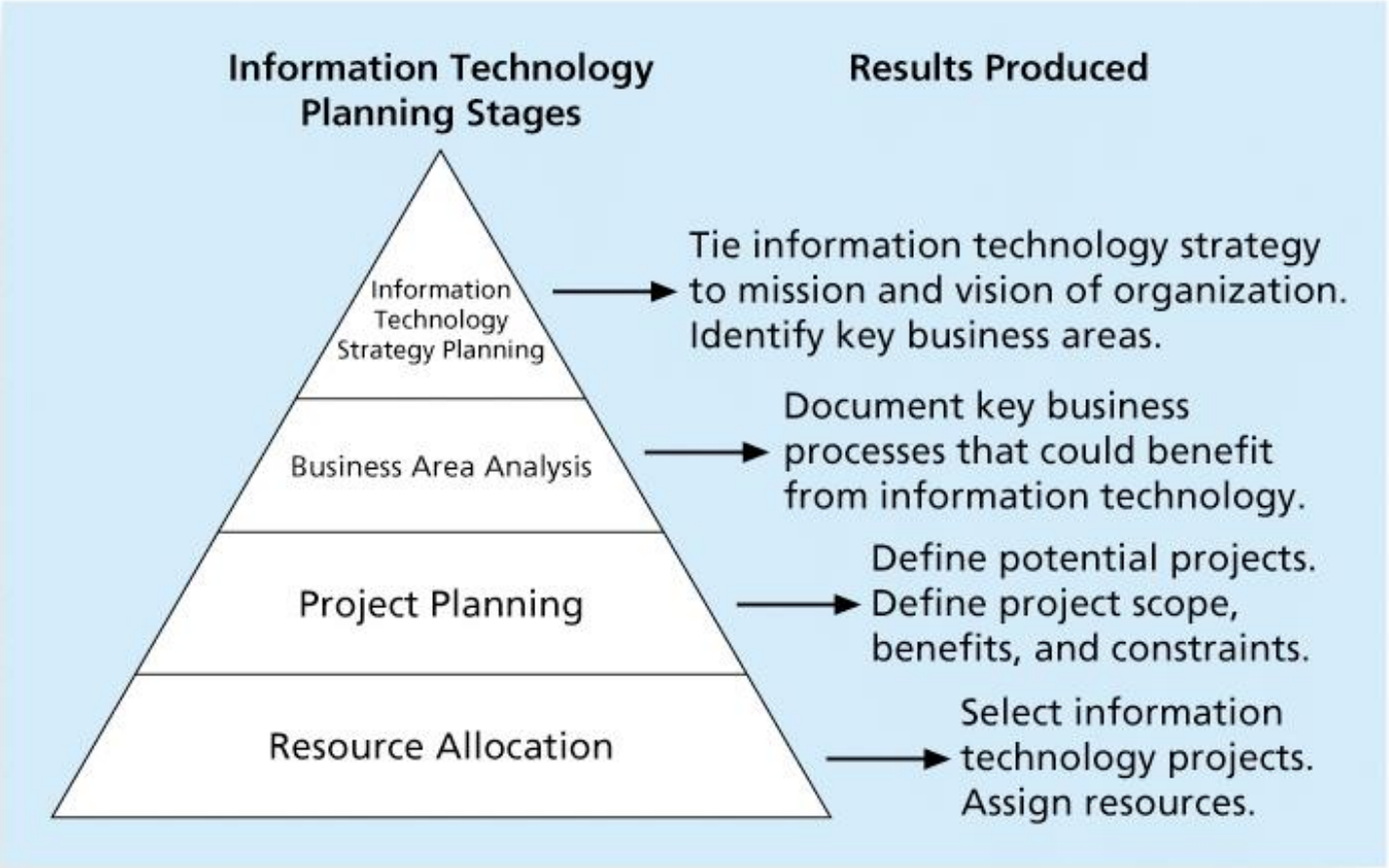


Figure 4-3. Information Technology Planning Process



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

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

Developing a Project Charter

- **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**

Inputs for Developing a Project Charter

- A project statement of work
- A business case
- Agreements
- Enterprise environmental factors
- **Organizational process assets**, which include **formal** and **informal** plans, **policies**, **procedures**, **guidelines**, **information systems**, **financial systems**, **management systems**, **lessons learned**, and **historical information**

Table 4-1. Project Charter for the DNA-Sequencing Instrument Completion Project

Project Title: DNA-Sequencing Instrument Completion Project
Date of Authorization: February 1
Project Start Date: February 1 **Projected Finish Date:** November 1

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, ncarson@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. Project Charter (cont.)

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.

ROLES AND RESPONSIBILITIES

Name	Role	Position	Contact Infomation
Ahmed Abrams	Sponsor	CEO	aabrams@dnaconsulting.com
Nick Carson	Project Manager	Manager	ncarson@dnaconsulting.com
Susan Johnson	Team Member	DNA expert	sjohnson@dnaconsulting.com
Renyong Chi	Team Member	Testing expert	rchi@dnaconsulting.com
Erik Haus	Team Member	Programmer	ehaus@dnaconsulting.com
Bill Strom	Team Member	Programmer	bstrom@dnaconsulting.com
Maggie Elliot	Team Member	Programmer	melliot@dnaconsulting.com

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

Developing a Project Management Plan

- 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

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

Project Execution Tools and Techniques

- **Expert judgment**: Experts can help project managers and their teams make many decisions related to project execution
- **Meetings:** Meetings allow people to develop relationships, pick up on important body language or tone of voice, and have a dialogue to help resolve problems.
- **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. 169

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 **broadcasting performance information**
- A **baseline** is the approved project management plan plus approved changes

Performing 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 System

- A **change control system**
  - is 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
- What is "Code Versioning Control System" (CVS)?

Closing Projects or 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

Figure 4-9. Sample Portfolio

Source: www.projectmanager.com

Chapter Summary

- **Project integration management** involves **coordinating** all of the **other knowledge areas** throughout a **project's life cycle**
- **Main processes include**
  - Develop the **project charter**
  - Develop the **project management plan**
  - Direct and manage **project execution**
  - **Monitor** and **control** project work
  - Perform **integrated change** control
  - Close the project or phase