

Chapter 3: The Project Management Process Groups: A Case Study

Information Technology Project
Management, Seventh Edition



Information Technology
PROJECT MANAGEMENT | 7e

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Note: See the text itself for full citations.

Learning Objectives

- ▶ Describe the five project management process groups, the typical level of activity for each, and the interactions among them
- ▶ Understand how the project management process groups relate to the project management knowledge areas
- ▶ Explain the importance of creating a project charter to formally initiate projects

Project Management Process Groups

- ▶ A **process** is a series of actions directed toward a particular result
- ▶ Project management can be viewed as a number of interlinked processes
- ▶ The project management process groups include
 - initiating
 - planning
 - executing
 - monitoring and controlling
 - closing

Mapping the Process Groups to the Knowledge Areas

- ▶ You can map the main activities of each PM process group into the ten knowledge areas using the PMBOK® Guide, Fifth Edition, 2012
- ▶ Note that there are activities from each knowledge area under the planning process groups
- ▶ Table 3-1 in textbook shows mapping

Project Pre-initiation

- ▶ It is good practice to lay the groundwork for a project before it officially starts
- ▶ Senior managers often perform several pre-initiation tasks, including the following:
 - Determine the scope, time, and cost constraints for the project
 - Identify the project sponsor
 - Select the project manager
 - Develop a **business case** for a project
 - Meet with the project manager to review the process and expectations for managing the project
 - Determine if the project should be divided into two or more smaller projects

Business Case

- ▶ Introduction/background
- ▶ Business objective
- ▶ Current situation and problem/opportunity statement
- ▶ Critical assumptions and constraints
- ▶ Analysis of options and recommendation
- ▶ Preliminary project requirements
- ▶ Budget estimate and financial analysis
- ▶ Schedule estimate
- ▶ Potential risks
- ▶ Exhibits
- ▶ Example in Table 3-2 of textbook
- ▶ See Business Case template

Financial Analysis

Discount rate = 8%

Year:	0	1	2	3	Total
Costs	140,000	40,000	40,000	40,000	
Discount factor	1	0.93	0.86	0.79	
Discounted Costs	140,000	37,200	34,400	31,600	243,200
Benefits	0	200,000	200,000	200,000	
Discount factor	1	0.93	0.86	0.79	
Discounted Benefits	0	186,000	172,000	158,000	516,000
Discounted benefits – costs	-140,000	148,800	137,600	126,400	
Cumulative benefits – costs	-140,000	8,800	146,400	272,800	← NPV
Payback in Year 1					
Discounted life cycle ROI		→ 112%			

Note: calculations in textbook (Table 3-2) use do not round the discount factor, so numbers are different

Net Present Value (NPV) Analysis

- ▶ A dollar in hand today is worth more than a dollar to be received in the future
- ▶ Why?
- ▶ If you had it now, you could invest it, earn interest, and end up with more than a dollar in the future.
- ▶ Any amount of money promised in the future is uncertain and riskier than others.

Calculate Discount factor

- ▶ **Discount factor = $1/(1 + r)^t$**
 - r = discount rate (%), t = year
- ▶ **Discount rates for next 3 years, $r = 8\%$**
 - Year 0: $1/(1 \times 0.08)^0 = 1$
 - Year 1: $1/(1 \times 0.08)^1 = .93$
 - Year 2: $1/(1 \times 0.08)^2 = .86$
 - Year 3: $1/(1 \times 0.08)^3 = .79$

Year:	0	1	2	3
Discount factor	1	0.93	0.86	0.79

Discounted Cost

- ▶ Discounted costs = costs x discount factor
- ▶ Total = sum over all years

Year:	0	1	2	3	Total
Costs	140,000	40,000	40,000	40,000	
Discount factor	1	0.93	0.86	0.79	
Discounted Costs	140,000	37,200	34,400	31,600	243,200

Discounted Benefits

- ▶ Discounted benefits = benefits x discount factor
- ▶ Total = sum over all years

Year:	0	1	2	3	Total
Benefits	0	200,000	200,000	200,000	
Discount factor	1	0.93	0.86	0.79	
Discounted Benefits	0	186,000	172,000	158,000	516,000

Discounted benefits - costs

Year:	0	1	2	3	Total
Discounted Benefits	0	186,000	172,000	158,000	516,000
Discounted Costs	140,000	37,200	34,400	31,600	243,200
Discounted benefits – costs	-140,000	148,800	137,600	126,400	

Cumulative benefits - costs

- ▶ Cumulative benefits – costs = sum of Discounted benefits – costs for current and previous years

Year:	0	1	2	3	Total
Discounted benefits – costs	-140,000	148,800	137,600	126,400	
Cumulative benefits – costs	-140,000	8,800	146,400	272,800	

= Year 0
= Year 0 + 1
= Year 0 + 1 + 2
= Year 0 + 1 + 2 + 3

- ▶ At the end of third year \$272, 800 would be earned (in current dollar value)

Return on Investment (ROI)

- ▶ $\text{ROI} = (\text{total discounted benefits} - \text{total discounted costs}) / \text{total discounted costs}$
- ▶ $\text{ROI} = (516,000 - 243,200) / 243,200 \times 100 = 112\%$
- ▶ ROI is always in percentage, the higher the better
- ▶ Can be positive or negative
- ▶ Most organizations have **required rate of return**

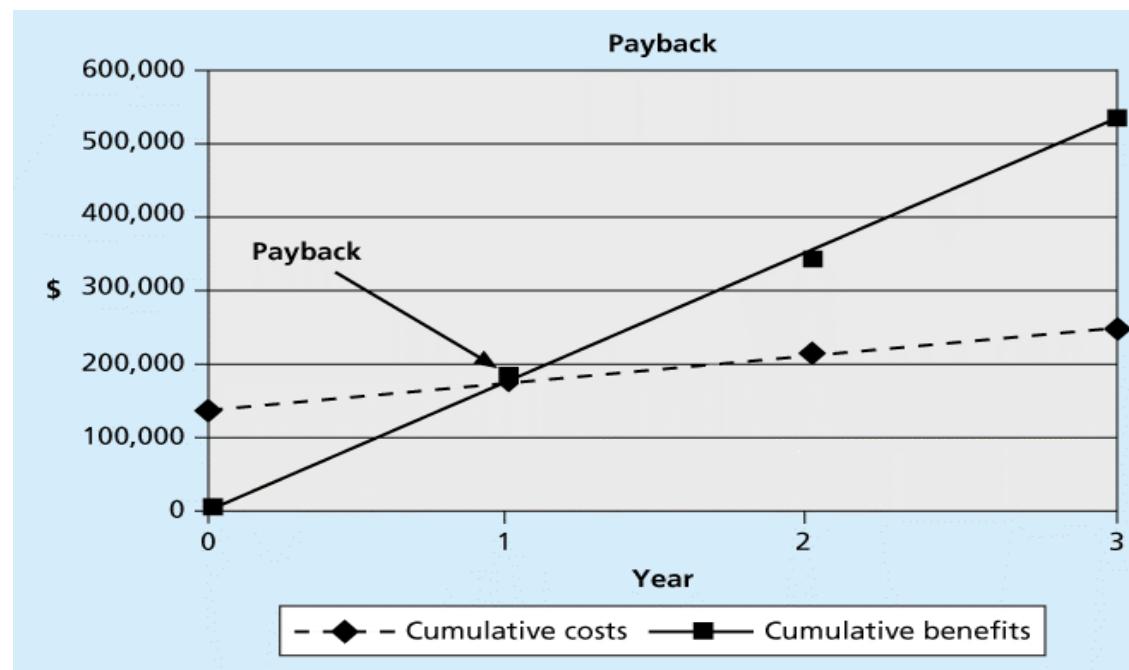
Year:	0	1	2	3	Total
Discounted Costs	140,000	37,200	34,400	31,600	243,200
Discounted Benefits	0	186,000	172,000	158,000	516,000
Discounted life cycle ROI	112%				

Payback Analysis

- ▶ Payback period: amount of time it will take to recoup the total dollars invested in a project
- ▶ Payback occurs when the net cumulative benefits equal the net cumulative costs.
- ▶ Charting the payback period
 - Plot cumulative costs and cumulative benefits
 - Year on x axis and amount on y axis.
 - Place where they cross each other is payback back period.

Payback Analysis

Year:	0	1	2	3	Total
Discounted Costs	140,000	37,200	34,400	31,600	243,200
Discounted Benefits	0	186,000	172,000	158,000	516,000



Assignment 1

- ▶ This will mean that SCMS will reduce its software cost by \$500,000 per year for next three years. Through an initial preliminary research, SCMS has allocated \$80,000 to undertake this Wiki project. The project is expected to start on the 3rd August 2015 and finish (including the completion of all deliverables and presentations) on the 16th October 2015. The Wiki should be up and running by the 2nd October so it can be available to the R&D project students for semester 1, 2016. The yearly usage fee for the two PMS products is expected to be \$40,000 and the yearly internet charge, allowing students to access the two PMS products will be \$10,000.
- ▶ **Use these numbers to perform your financial analysis**

Project Initiation Process

- ▶ Initiating a project includes recognizing and starting a new project or project phase
- ▶ The main goal is to formally select and start off projects

Knowledge Area	Initiating Process	Outputs
<i>Project Integration Management</i>	Develop project charter	Project charter
<i>Project Stakeholder Management</i>	Identify stakeholders	Stakeholder register

Project Charter

- ▶ authorizes a project
- ▶ ensures that necessary resources and management commitments
- ▶ ensures understanding of roles and responsibilities
- ▶ ensures project stakeholders share a common understanding of why the project is being done, the timeframe, deliverables, boundaries, and responsibilities.
- ▶ not be confused with the business case. The business case should already be completed, and the investment decision to proceed with a project should be taken before a project charter is created.
- ▶ does not normally change through the project life cycle. It is created at the beginning of the effort, approved by key stakeholders, and signed before work starts on a project.

Project Charter

- ▶ Project Title and date of authorization
- ▶ Project Timeline
- ▶ Budget Information
- ▶ Project manager's name and contact information
- ▶ Project Objectives
- ▶ Project Scope
- ▶ Project Success Criteria
- ▶ Project Approach
- ▶ Change Management Process
- ▶ Issue Management
- ▶ Roles and Responsibilities (include contact info)
- ▶ Sign-off
- ▶ Comments
- ▶ Example in Table 3-6 of textbook
- ▶ See Project Charter template

Stakeholder analysis

► **Advantages of Stakeholder Analysis**

- Get to know stakeholders better
- Relative importance, power and interests
- Better managed relationships
- Risks identified
- Make better strategies and decisions
- Greater acceptance of organisation actions by stakeholders

► **Disadvantages of Stakeholder Analysis**

- Best done on continuous basis
- Assessment of analysis may be subjective
- Maybe not all stakeholder interests can be met at the same time
- Focus is on most important stakeholder
- Balance & reconcile all interests according to importance or urgency

Example Stakeholder Register

Name	Position	Internal/ External	Project Role	Contact Information
Joe Fleming	CEO	Internal	Sponsor	joe_fleming@jwdconsulting.com
Erica Bell	PMO Director	Internal	Project manager	erica_bell@jwdconsulting.com
Michael Chen	Team member	Internal	Team member	michael_chen@jwdconsulting.com
Kim Phuong	Business analyst	External	Advisor	kim_phuong@client1.com
Louise Mills	PR Director	Internal	Advisor	louise_mills@jwdconsulting.com

Example Stakeholder Management Strategy

Name	Level of Interest	Level of Influence	Potential Management Strategies
Joe Fleming	High	High	Joe likes to stay on top of key projects and make money. Have a lot of short, face-to-face meetings and focus on achieving the financial benefits of the project.
Louise Mills	Low	High	Louise has a lot of things on her plate, and she does not seem excited about this project. She may be looking at other job opportunities. Show her how this project will help the company and her resume.

Contents are often sensitive, so do not publish this document.

Project Kick-off Meetings

- ▶ It's good practice to hold a **kick-off meeting** at the beginning of a project so that stakeholders can meet each other, review the goals of the project, and discuss future plans

Example Kick-off Meeting Agenda

Kick-Off Meeting [Date of Meeting]

Project Name: Project Management Intranet Site Project

Meeting Objective: Get the project off to an effective start by introducing key stakeholders, reviewing project goals, and discussing future plans

Agenda:

- Introductions of attendees
- Review of the project background
- Review of project-related documents (i.e., business case, project charter)
- Discussion of project organizational structure
- Discussion of project scope, time, and cost goals
- Discussion of other important topics
- List of action items from meeting

Action Item	Assigned To	Due Date

Date and time of next meeting:

Planning Process

- ▶ The main purpose of project planning is to *guide execution*
- ▶ Every knowledge area includes planning information (see Table 3-7 on pages 101-102)
- ▶ Key outputs include:
 - A team contract
 - A project scope statement
 - A work breakdown structure (WBS)
 - A project schedule (Gantt chart with all dependencies and resources)
 - A list of prioritized risks (part of a risk register)
 - Communication plan
 - Stakeholder management plan
 - Project methodology
 - Change management plan
 - Budget plan
 - Quality plan

▶ See sample documents starting on p. 104

Team Contract

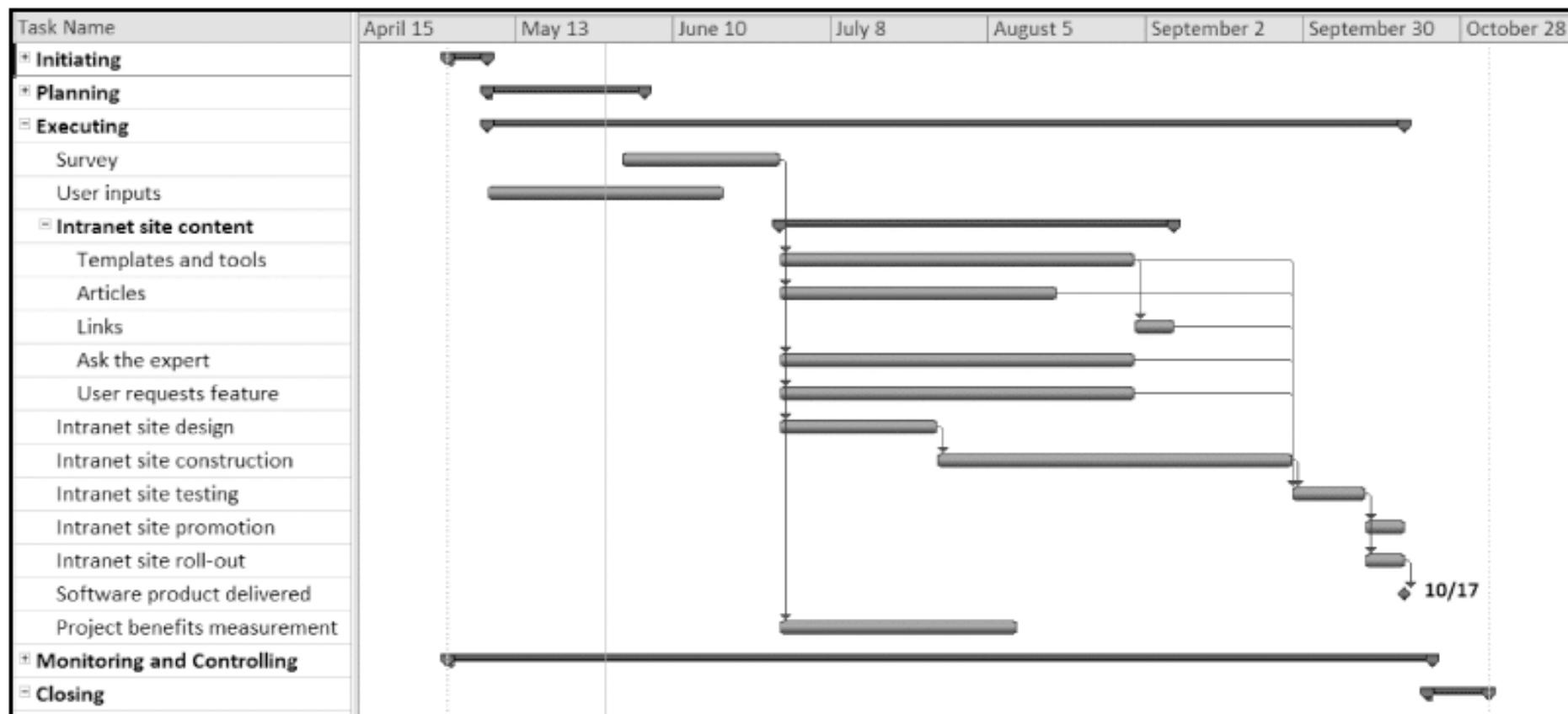
- ▶ Project Team Members Names and Sign-off
- ▶ Code of Conduct
- ▶ Participation
- ▶ Communication
- ▶ Problem Solving
- ▶ Meeting Guidelines

Meeting Guidelines: We will:

- Plan to have a face-to-face meeting the first and third Tuesday morning of every month.
- Meet more frequently the first month.
- Arrange for telephone or videoconferencing for participants as needed.
- Hold other meetings as needed.
- Record meeting minutes and send them via e-mail within 24 hours of all project meetings, focusing on decisions made and action items from each meeting.

- ▶ Example in Table 3-8 of textbook
- ▶ See Team Contract template

Example Project Baseline Gantt Chart



Example List of Prioritized Risks

RANKING	POTENTIAL RISK
1	Lack of inputs from internal consultants
2	Lack of inputs from client representatives
3	Security of new system
4	Outsourcing/purchasing for the article retrieval and "Ask the Expert" features
5	Outsourcing/purchasing for processing online payment transactions
6	Organizing the templates and examples in a useful fashion
7	Providing an efficient search feature
8	Getting good feedback from Michael Chen and other senior consultants
9	Effectively promoting the new system
10	Realizing the benefits of the new system within one year

Project Executing

- ▶ Usually takes the most time and resources to perform project execution
- ▶ Many project sponsors and customers focus on ***deliverables*** related to providing the products, services, or results desired from the project
- ▶ Table 3-11 on p. 111 lists the executing processes and outputs.
- ▶ A milestone report (example on pp. 112-113) can help focus on completing major milestones

Part of Example Milestone Report (Table 3-11, partial)

Milestone	Date	Status	Responsible	Issues/ Comments
<i>Initiating</i>				
Stakeholders identified	May 2	Completed	Erica and Joe	
Project charter signed	May 10	Completed	Erica	
Project kick-off meeting held	May 13	Completed	Erica	Went very well
<i>Planning</i>				
Team contract signed	May 13	Completed	Erica	
Scope statement completed	May 27	Completed	Erica	
WBS completed	May 31	Completed	Erica	
List of prioritized risks completed	June 3	Completed	Erica	Reviewed with sponsor and team
Schedule and cost baseline completed	June 13	Completed	Erica	
<i>Executing</i>				
Survey completed	June 28		Erica	Poor response so far!

Project Monitoring and Controlling

- ▶ Involves measuring progress toward project objectives, monitoring deviation from the plan, and taking correction actions
- ▶ Affects all other process groups and occurs during all phases of the project life cycle
- ▶ Outputs include performance reports, change requests, and updates to various plans
- ▶ See Table 3-13

Project Closing

- ▶ Involves gaining stakeholder and customer acceptance of the final products and services
- ▶ Even if projects are not completed, they should be closed out to learn from the past
- ▶ Outputs include project files and lessons-learned reports, part of organizational process assets
- ▶ Most projects also include a final report and presentation to the sponsor/senior management

Unique Scrum Activities by Process Group

Initiating:

- Determine roles
- Decide how many sprints will compose each release and the scope of software to deliver

Planning:

- Create product backlog
- Create sprint backlog
- Create release backlog
- Plan work each day in the daily Scrum
- Document stumbling blocks in a list

Executing:

- Complete tasks each day during sprints
- Produce a shippable product at the end of each sprint

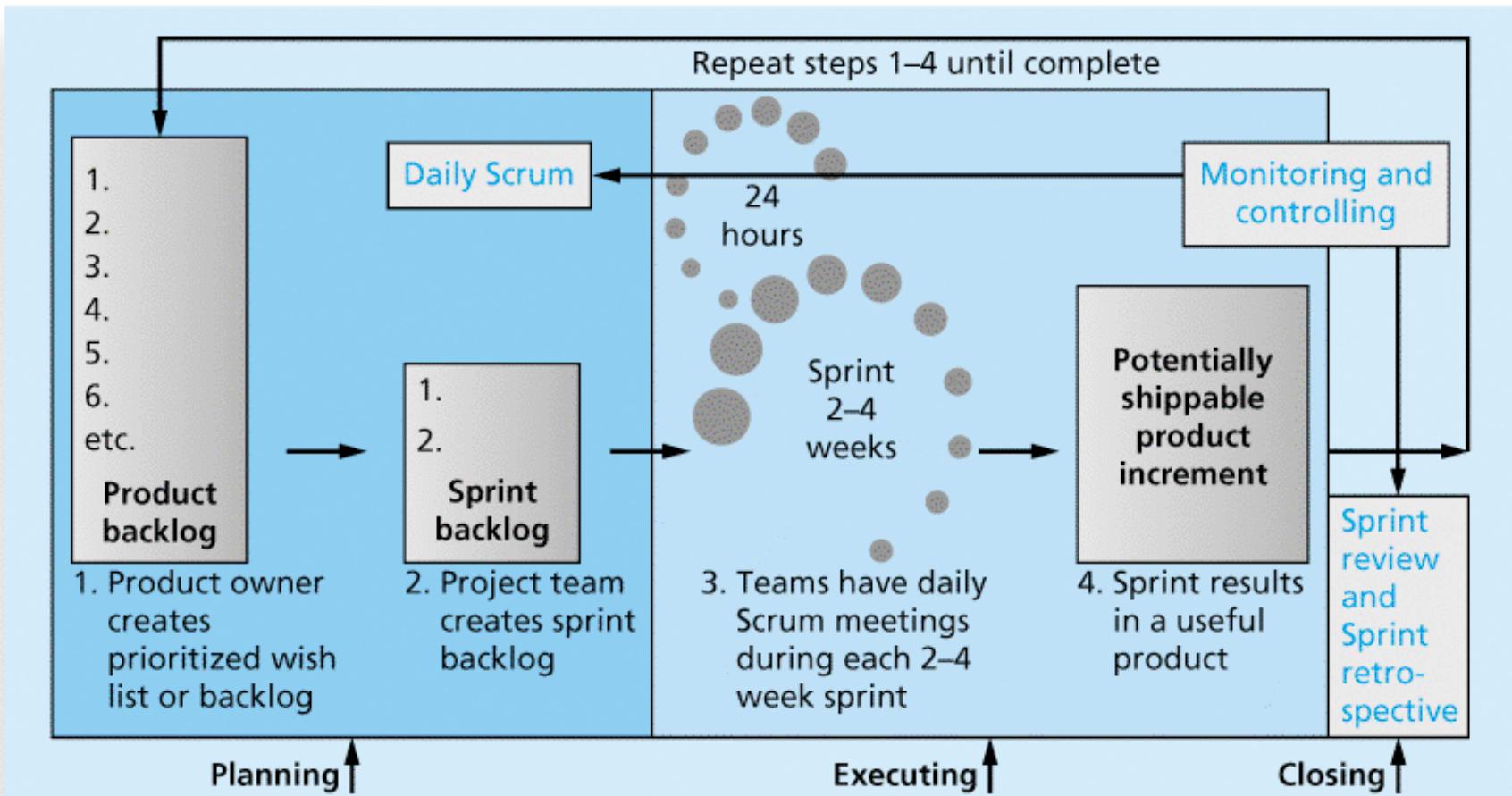
Monitoring and Controlling:

- Resolve issues and blockers
- Create and update burndown chart
- Demonstrate the completed product during the sprint review meeting

Closing:

- Reflect on how to improve the product and process during the sprint reflection meeting

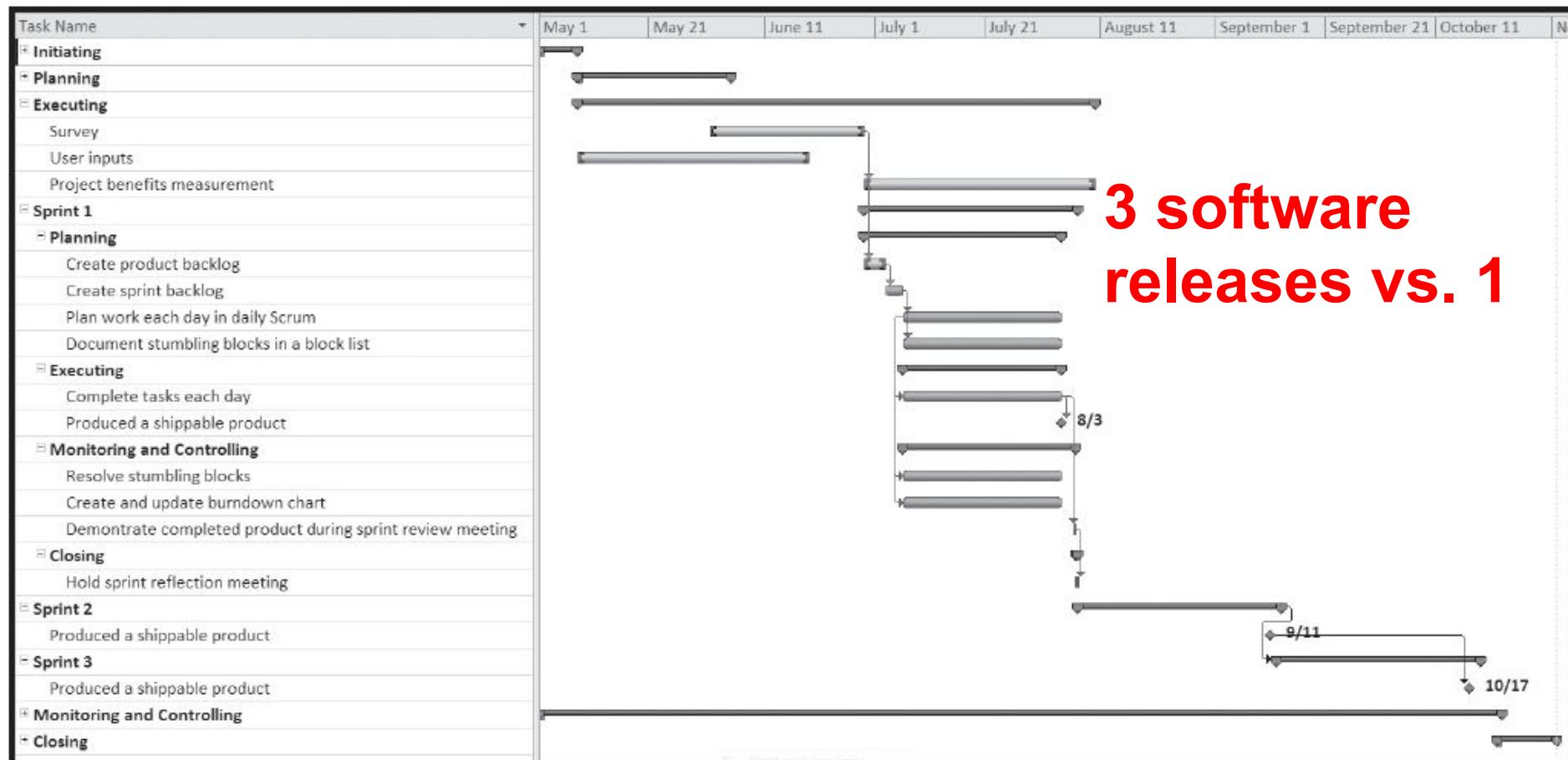
Scrum Framework and the Process Groups



Planning

- ▶ Not different from PMBOK® Guide
 - Still create a scope statement and can use a Gantt chart for the entire project schedule; other planning similar (risk, etc.)
- ▶ Different:
 - Descriptions of work are identified in the product and sprint backlogs, more detailed work documented in technical stories, estimate a velocity or capacity for each sprint; release roadmap often used for schedule

Example Baseline Gantt Chart Using Scrum Approach



Executing

- ▶ Not different from PMBOK® Guide
 - Still produce products, lead people, etc.
- ▶ Different:
 - Produce several releases of software - users of the new software might be confused by getting several iterations of the product instead of just one
 - Communications different because the project team meets every morning, physically or virtually

Monitoring and Controlling

- ▶ Not different from PMBOK® Guide
 - Still check actual work vs. planned work
- ▶ Different
 - Names of key reviews are the daily Scrum and the sprint review
 - A sprint board is used instead of a tracking Gantt chart or other tools
 - Use a burndown chart vs. earned value chart

Closing

- ▶ Not different from PMBOK® Guide
 - Focus is still on acceptance of deliverables and reflection
- ▶ Different:
 - The retrospective is similar to a lessons-learned report, but it focuses on a shorter period of time. It is intended to answer two fundamental questions:
 - What went well during the last sprint that we should continue doing?
 - What could we do differently to improve the product or process?

Templates

- ▶ Table 3-20 on pp. 130-131 lists the templates available on the companion Web site and the author's site (www.kathyschwalbe.com)
- ▶ Also available on AUTOline

Chapter Summary

- ▶ The five project management process groups are initiating, planning, executing, monitoring and controlling, and closing
- ▶ You can map the main activities of each process group to the ten knowledge areas
- ▶ The JWD Consulting case study provides an example of using the process groups and shows several important project documents

What's next

- ▶ Lab: Microsoft Project 2013 Exercise
- ▶ Next week:
 - Chapter 4: Project Integration Management
 - Chapter 13: Project Stakeholder Management
 - Lab: Novopay Case Study (read in advance)
- ▶ Assignment 1
 - available on AUTOnline
 - Team lists due by 4pm Thursday
 - Part 1 due 21/8 at 4pm.