IT Project management

62FIT2PRM . LECTURE 3. The Project Management Process Group

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
- Discuss how organizations develop information technology (IT) project management methodologies to meet their needs
- Describe several templates for creating documents for each process group
- Review a case study of an organization applying the project management process groups to manage an IT project, describe the outputs of each process group, and understand the contribution that effective initiating, planning, executing, monitoring and controlling, and closing make to project success
- Review the same case study of a project managed with an agile focus to illustrate the key differences in approaches

Project Management Process Groups

STEP 1
initiating processes

This is the project's initial phase. The goal is to **define the project** at a high level. Typically, this begins with a business case.
This stage is where you'll need to research whether the project is feasible and if it should be pursued.

STEP 2
planning processes

This phase is central to the project life cycle because it informs everyone involved of where you're going and how you're going to get there.
Here are some of the factors you should consider to keep the project on track: **Project scope, Communication plan, Project estimation, Risk management plan**

STEP 3
executing processes

This is where you put your plan into action. Because so much happens during this phase, it often feels like the heart of the project. Teams can be seen working together, **reviewing work, presenting to stakeholders, and revising**.

STEP 4
monitoring and controlling processes

This phase is all about ensuring the project runs smoothly and everything goes as planned. These are some of the **KPIs** you should keep an eye on Team performance, Project goals,

STEP 5
closing processes

This phase involves more than just submitting the project or sending out a congratulatory message.
Take the time to show gratitude. It's fine if there's no budget. When it comes to team morale, a sweet message or a virtual high five can work just as well.

A process is *a series of actions* directed toward a particular result

Project management can be viewed as several *interlinked processes*

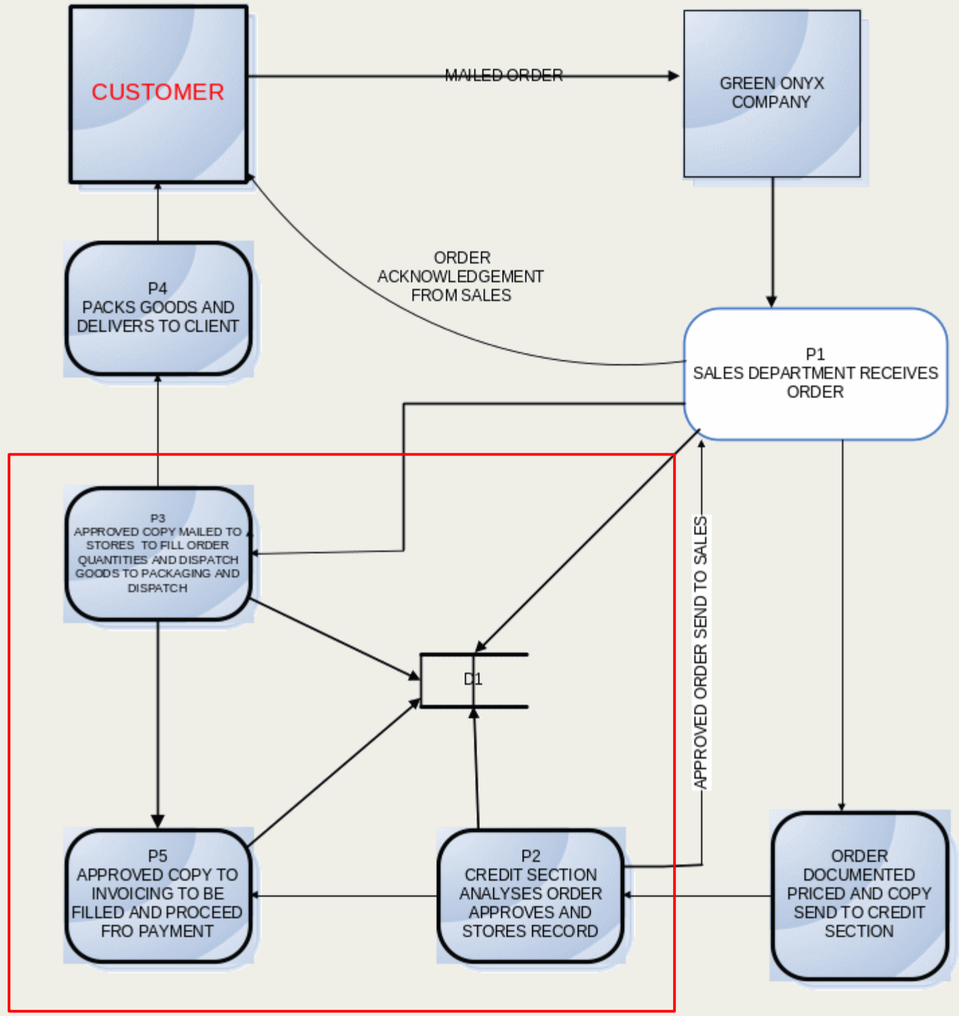

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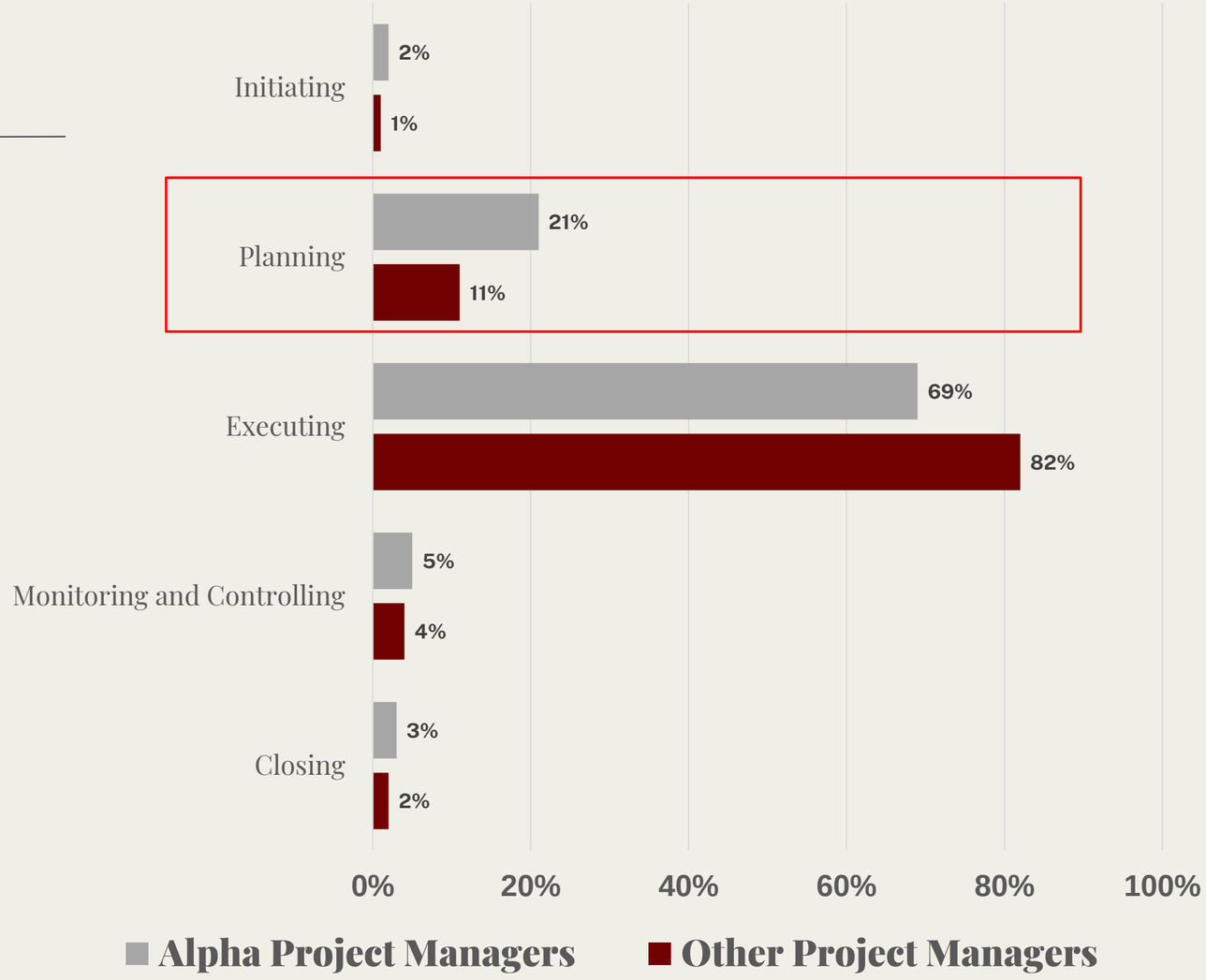
Figure 3-1. Percentage of Time Spent on Each Process Group

These guidelines were done by Andy Crowe and published in his book, Alpha Project Managers: *What the Top 2% Know That Everyone Else Does Not*. He collected data from 860 project managers in various companies and industries in the United States. This breakdown suggests that the *most time should be spent on executing*, followed by planning. Spending a fair amount on planning should lead to less time spent on execution. Notice that the *alpha project managers spent almost twice as much time on planning* (21% versus 11%) as other project managers.



What Went Wrong?

- Philip A. Pell, PMP, commented on how the U.S. IRS needed to improve its project management process. *"Pure and simple, good, methodology-centric, predictable, and repeatable project management is the SINGLE greatest factor in the success (or in this case failure) of any project".* The project manager is ultimately responsible for the success or failure of the project."*
- A 2014 U.S. Government Accountability Office (GAO) report stated that the IRS had significant cost and schedule variances in over 68 percent of its major IT projects

*Comments posted on the CIO Magazine Web site on the article "For the IRS, There's No EZ Fix," (April 1, 2004).

Media Snapshot

Just as information technology projects need to follow the project management process groups, so do other projects, such as the production of a movie. Processes involved in making movies might include screenwriting (initiating), producing (planning), acting and directing (executing), editing (monitoring and controlling), and releasing the movie to theaters (closing). Many people enjoy watching the extra features on a DVD that describe how these processes lead to the creation of a movie... This acted *"...not as promotional filler but as a serious and meticulously detailed examination of the entire filmmaking process."** Project managers in any field know how important it is to follow a good process.

*Jacks, Brian, "Lord of the Rings: The Two Towers Extended Edition (New Line)", Underground Online (accessed from *www.ugo.com* August 4, 2004).

Mapping the Process Groups to the Knowledge Areas

- You can map the main activities of each PM process group into the **10 knowledge areas** using the PMBOK® Guide, Fifth Edition, 2013
- Note that there are activities from each knowledge area under the planning process groups

Table 3-1. Mapping Project Management Process Groups to Knowledge Areas*

PROCESS GROUPS	INITIATING	PLANNING	EXECUTING	MONITOR & CONTROL	CLOSING
Project Integration Management	• Develop Project Charter	• Develop Project Management Plan	• Direct & Manage Project Work	• Monitor & Control Project Work • Perform Integrated Change Control	
Project Scope Management		• Plan Scope Management • Collect Requirement • Define Scopes • Create WBS		• Validate Scope • Control Scope	
Project Time Management		• Plan Schedule Management • Define Activities • Sequence Activities • Estimate Activity Resources • Estimate Activity Duration • Develop Schedule		• Control Schedule	
Project Cost Management		• Plan Cost Management • Estimate Costs • Determine Budget		• Control Costs	
Project Quality Management		• Plan Quality Management	• Perform Quality Assurance	• Control Quality	

*Source: PMBOK® Guide, Fifth Edition, 2013.

Table 3-1. Continue

PROCESS GROUPS	INITIATING	PLANNING	EXECUTING	MONITOR & CONTROL	CLOSING
Project HR Management		• Plan HR Management	• Acquire Project Team • Develop Project Team • Manage Project Team		
Project Communication Management		• Plan Communication Management	• Manage Communications	• Control Communications	
Project Risk Management		• Plan Risk Management • Identify Risks • Plan Qualitative Risk Analysis • Plan Quantitative Risk Analysis • Plan Risk Responses		• Control Risks	
Project Procurement Management		• Plan Procurement Management	• Conduct Procurement	• Control Procurement	• Close Procurement
Project Stakeholder Management	• Identify Stakeholders	• Plan Stakeholders Management	• Manage Stakeholders Engagement	• Manage Stakeholders Engagement	

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
- A **methodology** describes *how* things should be done; a **standard** describes *what* should be done
- PRINCE2, Agile, RUP, and Six Sigma provide different project management methodologies

GLOBAL ISSUES

- A 2011 study of organizations across India included the following findings:
  - Two-thirds of organizations in some stage of Agile adoption are realizing key software and business benefits in terms of faster delivery of products to the customer, an improved ability to manage changing requirements, and higher quality and productivity in IT.
  - Organizations struggle with the magnitude of the cultural shift required for Agile, opposition to change, a lack of coaching and help in the Agile adoption process, and a lack of qualified people.
  - The daily stand-up, iteration planning, and release planning are the most commonly used practices, while paired programming and open workspaces are not popular

What Went Right?

- Organizations that excel in project management complete 89 percent of their projects successfully compared to only 36 percent of organizations that do not have good project management processes
- PMI estimates that poor project performance costs over $109 million for every $1 billion invested in projects and programs

Case Study: JWD Consulting's Project Management Intranet Site (Predictive Approach)

- 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 or the author's site
- Note: This case study provides a big-picture view of managing a project. Later chapters provide detailed information on each knowledge area

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 (see Table 3-2 for an example)
  - 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

Project Initiation

- Initiating a project includes recognizing and starting a new project or project phase
- The main goal is to formally select and start off projects
- Table 3-3 shows the project initiation knowledge areas, processes, and outputs

TABLE 3-3 Project initiation knowledge areas, processes, and outputs

Knowledge Area	Initiating Process	Outputs
Project Integration Management	Develop project charter	Project charter
Project Stakeholder Management	Identify stakeholders	Stakeholder register

Source: *PMBOK® Guide, Fifth Edition*, 2013.

Table 3-4. 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	Senior Consultant	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

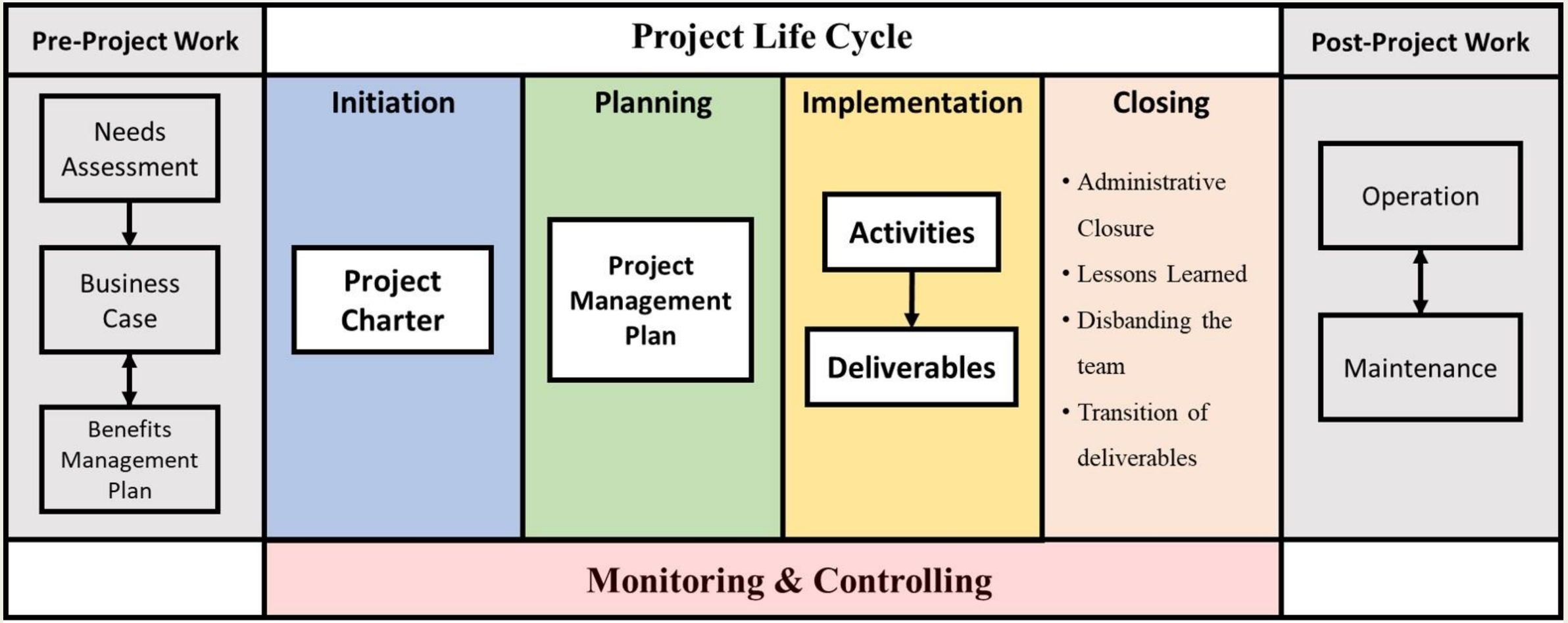
Table 3-4. Stakeholder Management Strategy

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 CHARTERS AND KICK-OFF MEETINGS

- See Table 3-6 for an example of a charter
- Charters are normally short and include key project information and stakeholder signatures
- 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


Pre-Project Work
Project Life Cycle
Post-Project Work
Needs Assessment
Business Case
Benefits Management Plan
Initiation
Project Charter
Planning
Project Management Plan
Implementation
Activities
Deliverables
Closing
• Administrative Closure
• Lessons Learned
• Disbanding the team
• Transition of deliverables
Operation
Maintenance
Monitoring & Controlling

PROJECT CHARTER

Project Title	Project and Portfolio Management Tool			Project Manager	Sameer Patel
Project Start Date	May 21, 2017	Project End Date	August 31, 2017	Project Sponsor	Randy Hadden

Business Need

All Information Technology projects that require agreement on the Memorandum of Understanding between the Customer and the Service Provider are approved through email. This project was initiated to reduce the manual approvals and create a system to obtain and track the approvals to reduce any discrepancies and loss of data.

Project Scope	Deliverables
Create an in-house PPM to include all Global IT projects.	1. Generate consolidated project status report 2. Extract Global Headcount details for all projects
Risks and Issues	**Assumptions/Dependencies**
1. Data discrepancy due to large amount of projects 2. Involvement of multiple teams	1. All Global IT projects to be added to the tool 2. Managers to provide regular updates for the projects

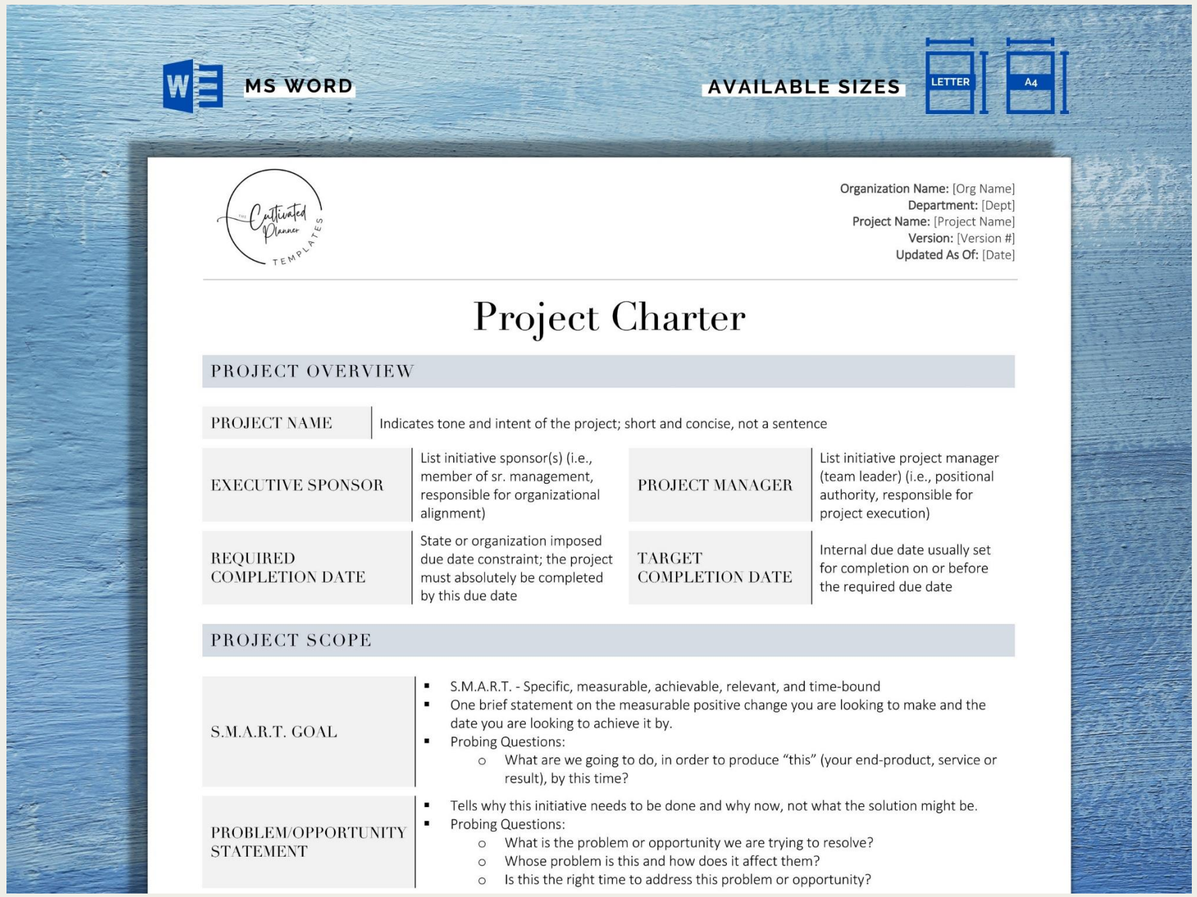
Financials

Budget to complete this project is $3000

Milestones Schedule

Milestone	Target Completion Date	Actual Date
Upload all Global IT Projects to the tool	May 20, 2017	
Complete UAT testing for the tool	July 30,2017	

Project Team		Approval/Review Committee	
Project Manager	Randy Hadden	**Sponsor**	Randy Hadden
Project Manager	Sameer Patel	**Business Division Head**	Aniket Bhonsle
Team Members	Vice President, Senior Manager, Analyst	**Business Unit Head**	Sunil Rajan
		Finance Manager	Ketan Shah



A project charter is a formal short document that states a project exists and provides project managers with written authority to begin work. A project charter document describes a project to create a shared understanding of its goals, objectives, and resource requirements before the project is scoped out in detail.

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Project charter vs. project plan

The project charter is a high-level strategic overview that seeks to lay out the terms of the project, along with other key details such as relevant stakeholder information. It provides the parameters within which your team must operate in order for the project to be a success.

The project plan is more of a nuts-and-bolts outline that explains how you'll go about executing the project on a tactical level. In the project plan, there should be a greater emphasis on specific actions, processes, and workflows that will help you complete your work efficiently and to a high standard.

Figure 3-2. 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

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Action Item	Assigned To	Due Date

Date and time of next meeting:

Project Planning

- The main purpose of project planning is to *guide execution*
- Every knowledge area includes planning information (see Table 3-7 on pages 98-99)
- Key outputs included in the JWD project include:
  - A team contract
  - A project 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 (part of a risk register)
- See sample documents starting on p. 101

Figure 3-4. JWD Consulting Intranet Site Project Baseline Gantt Chart

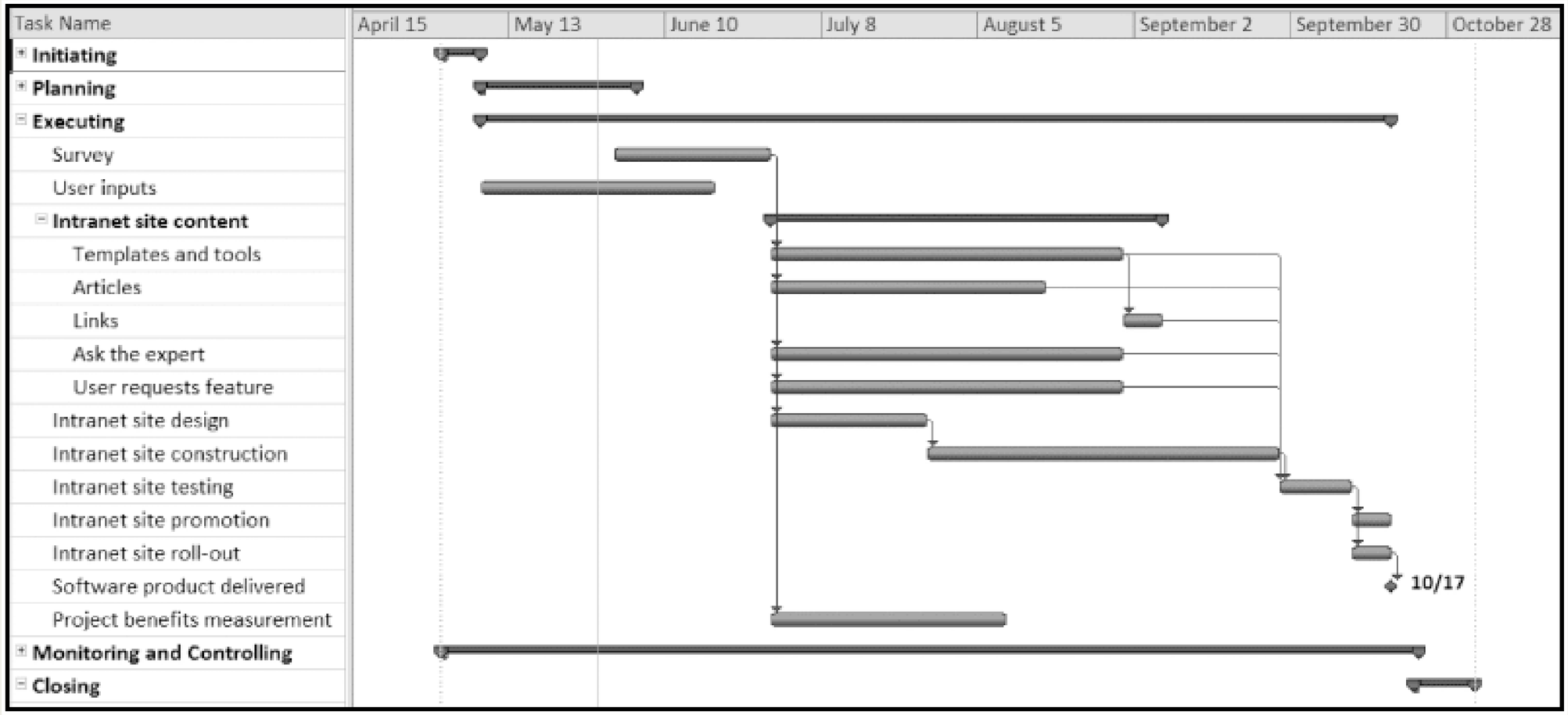

Table. 3-10. List of Prioritized Risks

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
- Project managers must use their leadership skills to handle the many challenges that occur during project execution
- Table 3-11 lists the executing processes and outputs. Many project sponsors and customers focus on deliverables related to providing the products, services, or results desired from the project
- A milestone report can help focus on completing major milestones

Part of Milestone Report (Table 3-12, partial)

Milestone	Date	Status	Responsible	Issues/ Comments
Initiating 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
Planning 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	
Executing Survey completed	June 28		Erica	Poor response so far!

Best Practice

- One way to learn about best practices in project management is by studying recipients of PMI's Project of the Year award
- The Quartier International de Montreal (QIM), Montreal's international district, was a 66-acre urban revitalization project in the heart of downtown Montreal
- This $90 million, five-year project turned a once unpopular area into a thriving section of the city with a booming real estate market and has generated $770 million in related construction

Project Monitoring and Controlling

- Involves measuring progress toward project objectives, monitoring deviation from the plan, and taking corrective 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

Case Study 2: JWD Consulting's Project Management Intranet Site (Agile Approach)

- This section demonstrates a more agile approach to managing the same project
- Differences in using an agile approach are highlighted
- An agile project team typically uses several iterations or deliveries of software instead of waiting until the end of the project to provide one product.

An Informed Decision

- It is not a snap decision whether to use an agile approach or not, just like flying or driving somewhere on a trip
- Projects with less rigid constraints, experienced and preferably co-located teams, smaller risks, unclear requirements, and more flexible scheduling would be more compatible with an agile approach
- The following example uses Scrum roles, artifacts, and ceremonies

Scrum Roles

- **Product owner**: The person responsible for the business value of the project and for deciding what work to do and in what order, as documented in the product backlog.
- **ScrumMaste**r: The person who ensures that the team is productive, facilitates the daily Scrum, enables close cooperation across all roles and functions, and removes barriers that prevent the team from being effective.
- **Scrum team or development team**: A cross-functional team of five to nine people who organize themselves and the work to produce the desired results for each **sprint**, which normally lasts 2-4 weeks.

Scrum Artifacts

- An artifact is a useful object created by people
- Scrum artifacts include:
  - **Product backlog**: A list of features prioritized by business value
  - **Sprint backlog**: The highest-priority items from the product backlog to be completed within a sprint
  - **Burndown chart**: Shows the cumulative work remaining in a sprint on a day-by-day basis

Scrum Ceremonies

- Sprint planning session: A meeting with the team to select a set of work from the product backlog to deliver during a sprint.
- **Daily Scrum**: A short meeting for the development team to share progress and challenges and plan work for the day.
- Sprint reviews: A meeting in which the team demonstrates to the product owner what it has completed during the sprint.
- Sprint retrospectives: A meeting in which the team looks for ways to improve the product and the process based on a review of the actual performance of the development team.

Figure 3-5. Scrum Framework and the Process Groups

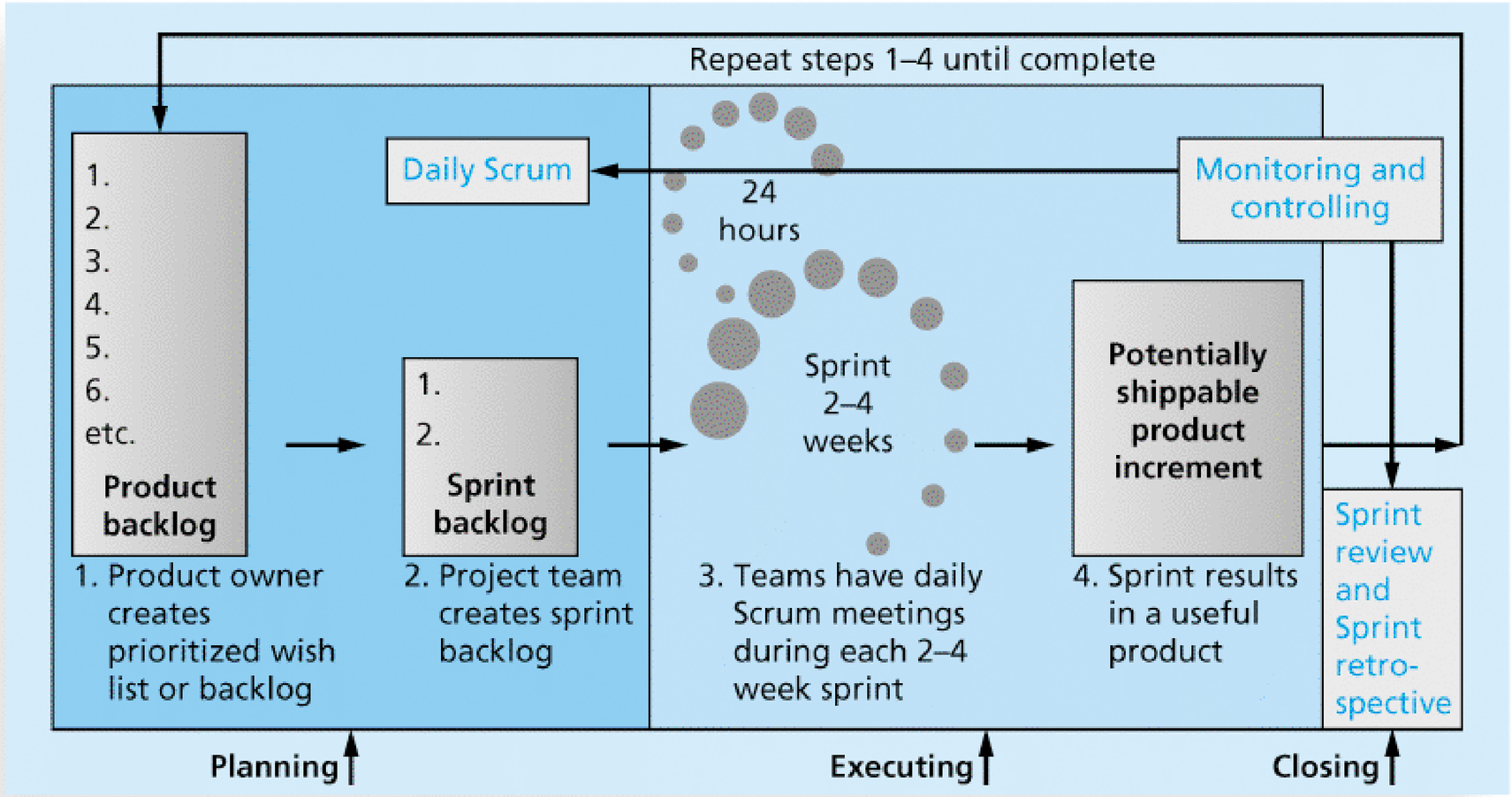

Table 3-18. unique Scrum Activities by Process Group

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

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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

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

Figure 3-6. Intranet Site Project Baseline Gantt Chart Using Scrum ApproachApproach

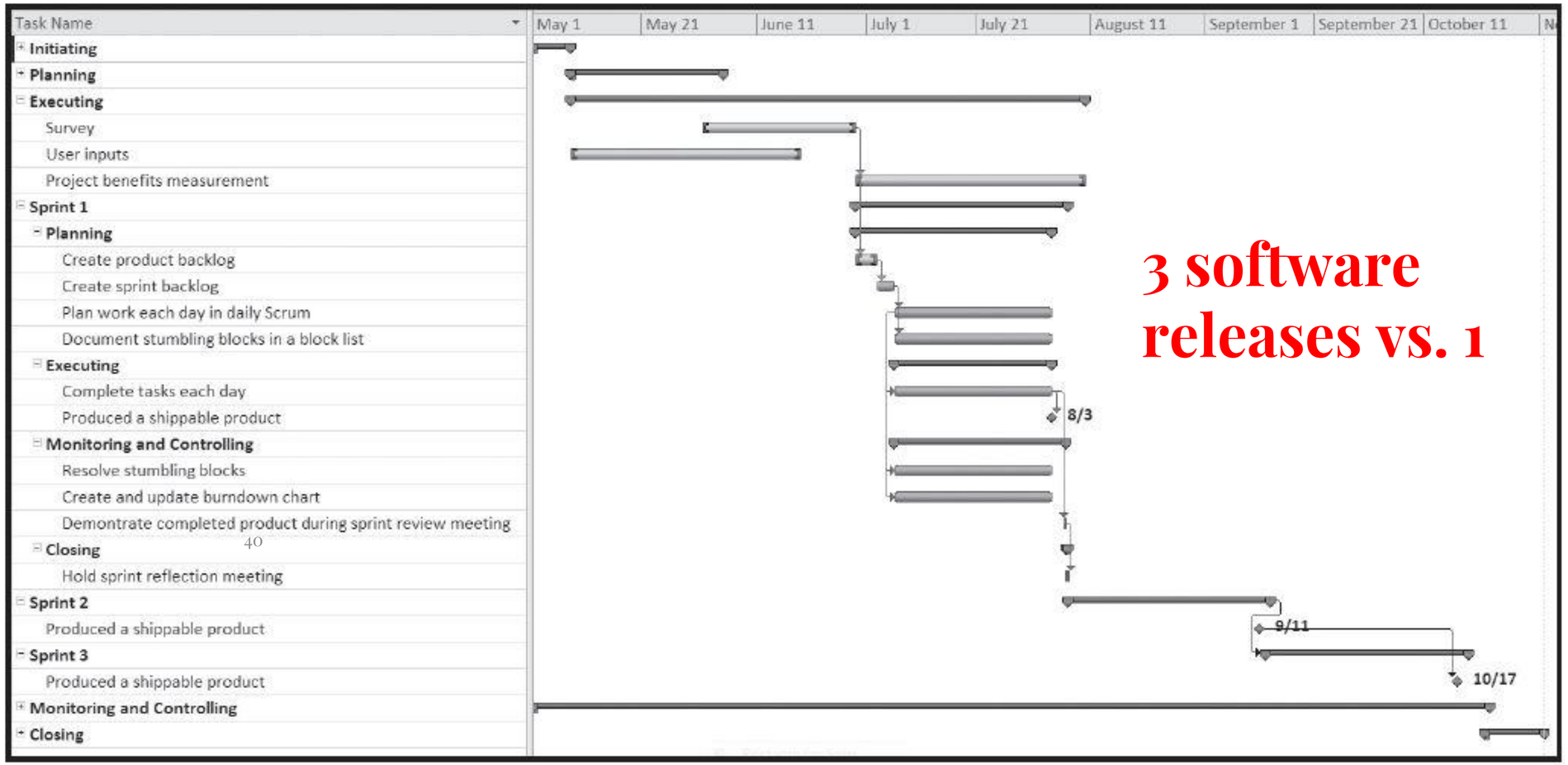


Table 3-19. Product and Sprint Backlogs

Product Backlog

1. User story templates, samples, and point person
2. WBS templates, samples, and point person
3. Project schedule templates, samples, and point person
4. Ability to charge customers for some intranet products and services
5. Ability to collect user suggestions
6. Business case templates, samples, and point person
7. Ask the Expert feature
8. Stakeholder management strategy templates, samples, and point person
9. Risk register templates, samples, and point person
10. Etc.

Sprint Backlog

1. User story templates, samples, and point person
2. WBS templates, samples, and point person
3. Project schedule templates, samples, and point person
4. Ability to charge customers for some intranet products and services
5. Ability to collect user suggestions

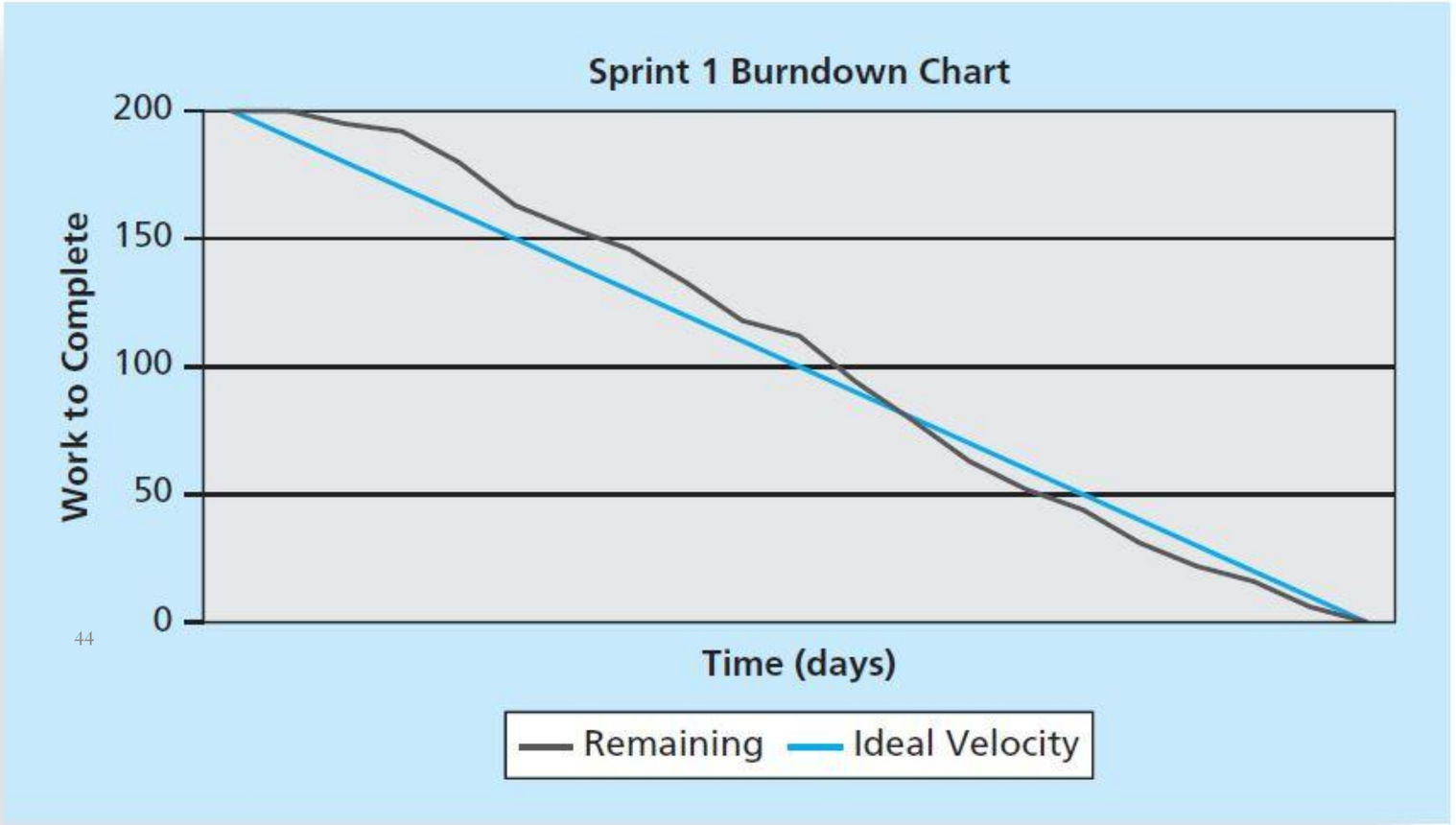
Executing

- 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 are 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. an earned value chart

Figure 3-7. Burndown Chart



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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 lists the templates available on the companion website and the author's site at www.pmtexts.com or www.kathyschwalbe.com

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 nine knowledge areas
- Some organizations develop their own information technology project management methodologies
- The JWD Consulting case study provides an example of using the process groups and shows several important project documents
- The second version of the same case study illustrates differences using agile (Scrum). The biggest difference is providing three releases of useable software versus just one

Thank you!

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