Chapter 3: The Project Management Process Groups

Information Technology Project Management, Ninth Edition

Note: See the text itself for full citations

Learning Objectives (1 of 2)

- Describe the five project management process groups, the typical level of activity for each, and the interactions among them
- Relate the project management process groups to the project management knowledge areas
- Discuss how organizations develop information technology (IT) project management methodologies to meet their needs
- Review a case study of an organization applying the project management process groups to manage an IT project, describe outputs of each process group, and understand the contribution that effective initiating, planning, executing, monitoring and controlling, and closing make to project success

Learning Objectives (2 of 2)

- Review a case study of the same project managed with an agile focus and compare the key differences between an agile approach and a predictive approach
- Describe several templates for creating documents for each process group

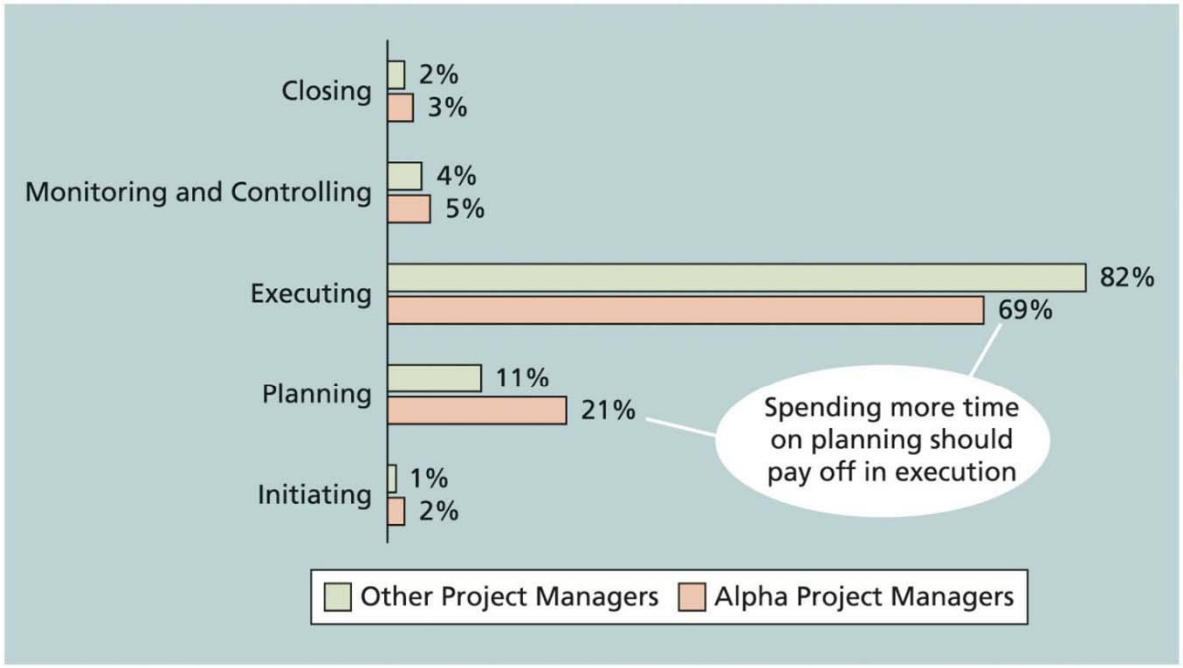
Introduction

- Project management consists of 10 knowledge areas
  - Integration, scope, schedule, cost, quality, resource, communications, risk, procurement, and stakeholder management
- Projects involve five project management process groups
  - Initiating, planning, executing, monitoring and controlling, and closing
    - Tailoring these process groups to meet individual project needs increases the chance of success in managing projects

Project Management Process Groups (1 of 2)

- A process is a series of actions directed toward a particular result
  - Project management can be viewed as a number of related processes
- Project management process groups
  - Initiating processes
  - Planning processes
  - Executing processes
  - Monitoring and controlling processes
  - Closing processes

Project Management Process Groups (2 of 2)



Source: Andy Crowe

FIGURE 3-1 Percentage of time spent on each process group

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 IRS continues to have serious problems in managing its aging IT infrastructure, and lack of proper planning is still being questioned

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 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 ten knowledge areas using the *PMBOK® Guide, Sixth Edition*
  - Note that there are activities from each knowledge area under the planning process groups
  - Table 3-1 provides a big-picture view of the relationships among the 49 project management activities, the process groups in which they are typically completed, and the knowledge areas into which they fit

Developing an IT Project Management Methodology

- Many organizations develop their own internal IT project management methodologies
  - A methodology describes how things should be done
  - A standard describes what should be done
- Different project management methodologies
  - PRojects IN Controlled Environments (PRINCE2)
  - Agile
  - Rational Unified Process (RUP)
  - Six Sigma

Global Issues

- In 2018 PMI published their tenth annual global project management survey (Pulse of the Profession®)
  - 47 percent of projects completed in organizations in the past year used a predictive approach, 23 percent used agile, 23 percent used a hybrid of predictive and agile, and seven percent used other approaches
- A 2017 global survey conducted by VersionOne found that 94 percent of respondents said their organizations practiced agile, but 60 percent of their teams were not yet practicing it
  - The top three benefits of agile listed were the ability to manage changing priorities, increased team productivity, and improved project visibility

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 website 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 and Initiation

- Initiating includes recognizing and starting a new project
  - Right kinds of projects for the right reasons
- Strategic planning should serve as the foundation for deciding which projects to pursue
  - Expresses the vision, mission, goals, objectives, and strategies of the organization
  - Provides the basis for IT project planning

Pre-initiation Tasks

- It is good practice to lay the groundwork for a project before it officially starts
- Senior managers often perform several pre-initiation tasks
  - 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

Initiating (1 of 5)

Knowledge Area	Initiating Process	Initiating Process
Project Integration Management	Develop project charter	Project charter Assumption log
Project Stakeholder Management	Identify stakeholders	Stakeholder register Change requests Project management plan updates Project documents updates

Source: PMBOK® Guide – Sixth Edition, 2017

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

Initiating (2 of 5)

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 Register

Initiating (3 of 5)

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.

Table 3-5 Stakeholder Management Strategy

Initiating (4 of 5)

- Drafting the project charter
  - See Table 3-6 for an example
- Holding a project kick-off meeting
  - 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

Initiating (5 of 5)

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 (business case and 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:

FIGURE 3-2 Kick-off meeting agenda

Project Planning (1 of 3)

- The main purpose of project planning is to guide execution
  - Every knowledge area includes planning information (see Table 3-7)
- Key outputs included in the JWD project
  - Team contract
  - Project scope statement
  - Work breakdown structure (WBS)
  - Project schedule, in the form of a Gantt chart with all dependencies and resources entered
  - List of prioritized risks (part of a risk register)
- See sample documents

Project Planning (2 of 3)

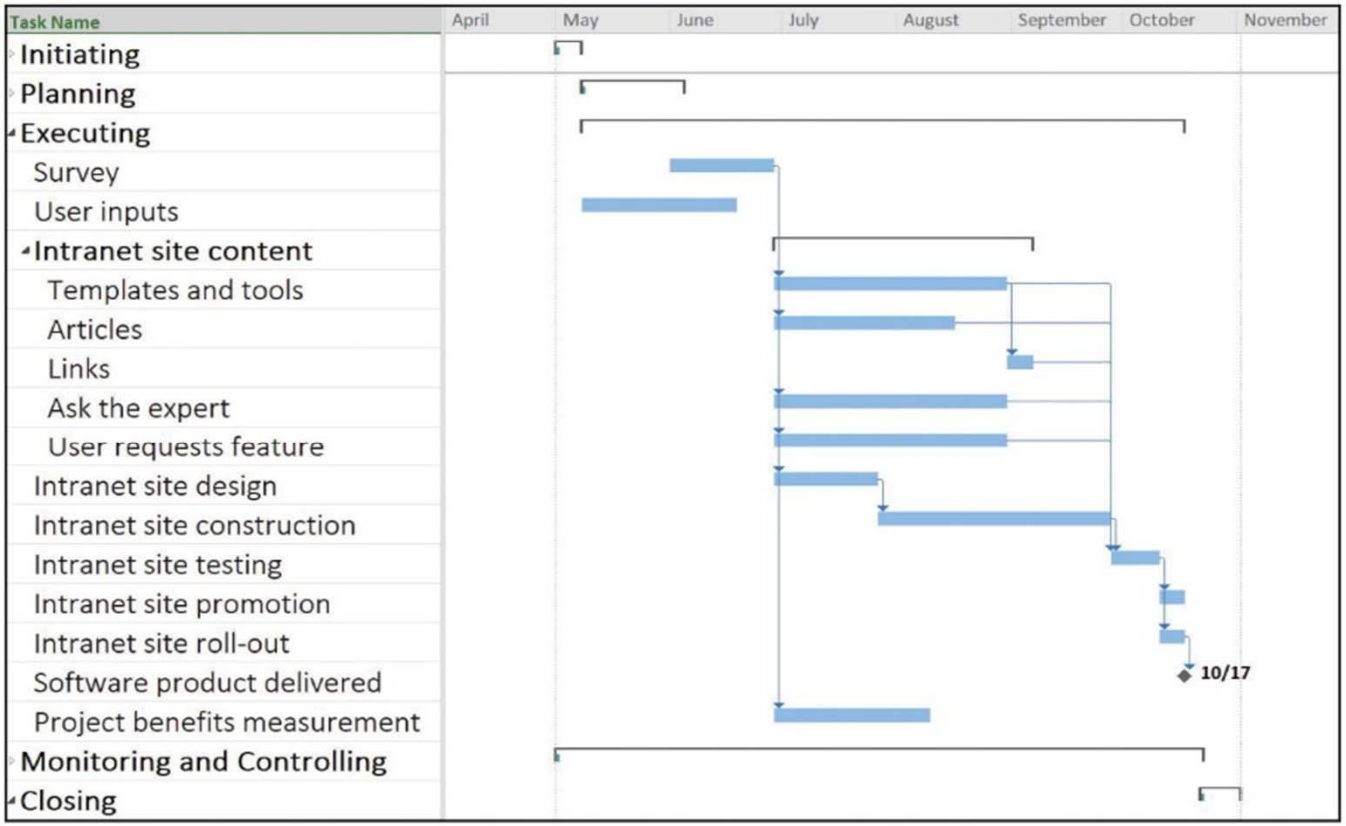


FIGURE 3-4 JWD Consulting intranet site project baseline Gantt chart

Project Planning (3 of 3)

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

Table 3-10 List of Prioritized Risks

Project Execution

- Usually takes the most resources to perform
  - Project managers must use their leadership skills to handle the many challenges that occur during project execution
- Table 3-11 lists the knowledge areas, executing processes, and outputs of project execution
  - Many project sponsors and customers focus on deliverables related to providing the products, services, or results desired from the project
  - It is equally important to document change requests and update planning documents
- A milestone report can help focus on completing major milestones

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 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 may include project files and lessons-learned reports
  - Also may include a final report and presentation

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

- 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
  - Teams do not normally make a snap decision about whether to manage a project using an agile approach or not

Scrum Roles, Artifacts, and Ceremonies (1 of 5)

- Product owner: 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
- ScrumMaster: 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: 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 two to four weeks

Scrum Roles, Artifacts, and Ceremonies (2 of 5)

- An artifact is a useful object created by people
- Scrum artifacts
  - Product backlog: list of features prioritized by business value
  - Sprint backlog: 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 Roles, Artifacts, and Ceremonies (3 of 5)

- Scrum ceremonies
  - Sprint planning session: meeting with the team to select a set of work from the product backlog to deliver during a sprint
  - Daily Scrum: short meeting for the development team to share progress and challenges and plan work for the day
  - Sprint reviews: meeting in which the team demonstrates to the product owner what it has completed during the sprint
  - Sprint retrospectives: 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

Scrum Roles, Artifacts, and Ceremonies (4 of 5)

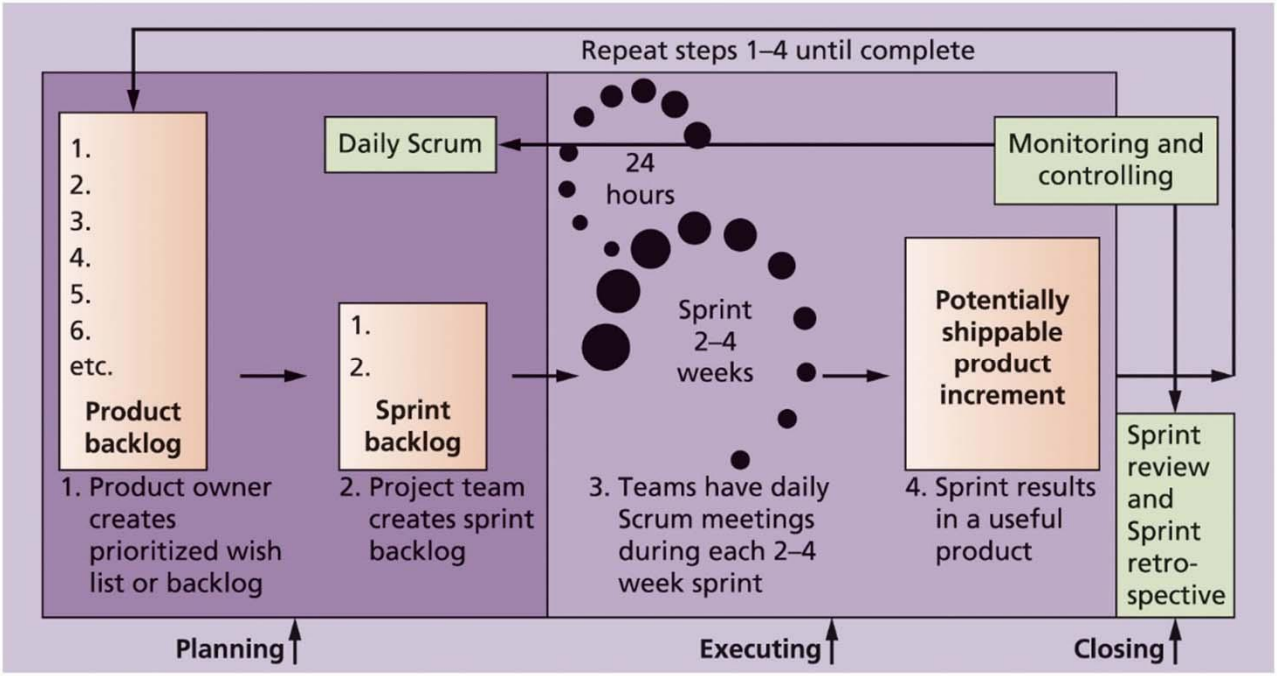


FIGURE 3-5 Scrum framework and the process groups

Scrum Roles, Artifacts, and Ceremonies (5 of 5)

Process Group	Scrum Activity
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

Table 3-18 Unique Scrum activities by process group

Project Pre-Initiation and Initiation

- Main differences between pre-initiation in this case and the first case
  - Determining roles and deciding what functionality would be delivered as part of each release
  - How many sprints will be required to complete a release
  - How many releases of software to deliver

Planning (1 of 3)

- Because Scrum implies that team members work as a self-directed group, coached by the ScrumMaster, a team charter should not be necessary
- Descriptions of work are identified in the product and sprint backlogs
- More detailed work is documented in technical stories
- Team must estimate a velocity or capacity for each sprint

Planning (2 of 3)

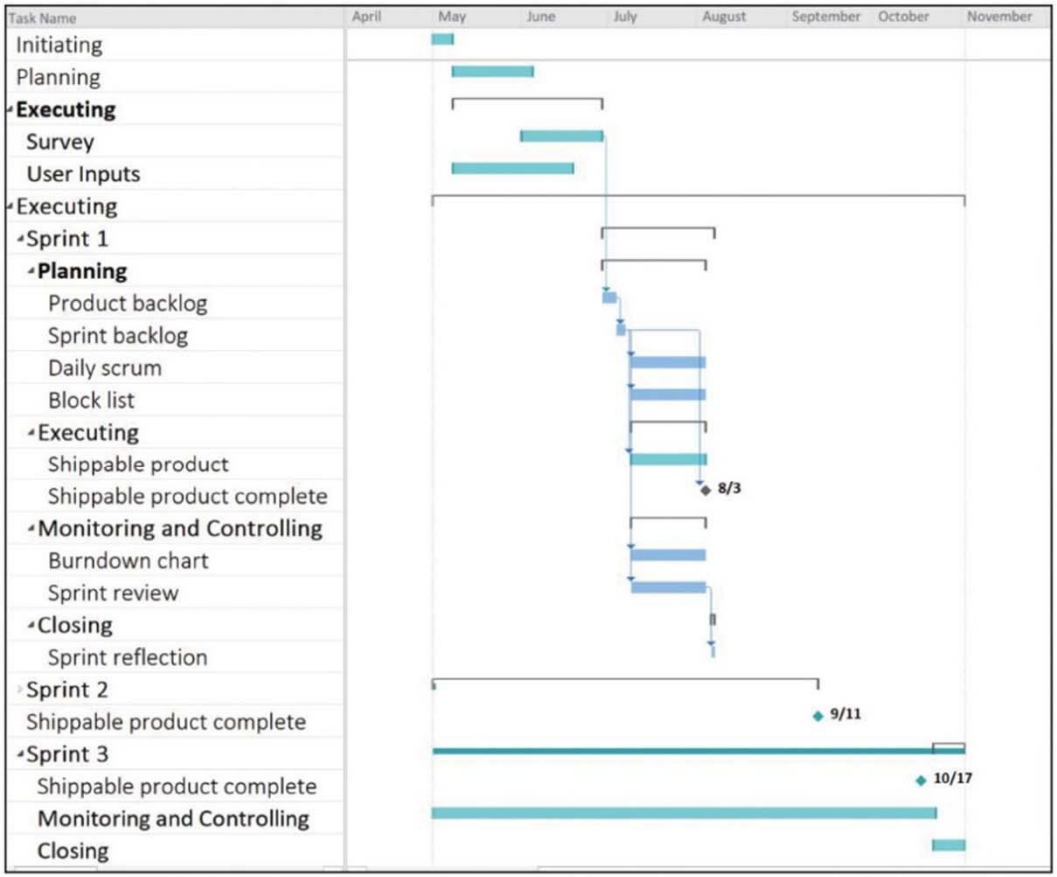


FIGURE 3-6 Intranet site project baseline Gantt chart using Scrum approach

Planning (3 of 3)

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

Table 3-19 Product and Sprint Backlogs

Executing

- The most time and money should be spent on executing
  - Plans are implemented to create the desired product
- Agile approach: team produces several iterations of a potentially shippable product
  - Users can access and make suggestions
- Communications are different
  - Project team meets every morning, physically or virtually

Monitoring and Controlling (1 of 2)

- The two main tools for monitoring and controlling in the Scrum framework
  - Daily Scrum: held each morning to plan and communicate work for the day and discuss any risks, issues, or blockers
  - Sprint review: work progress within a sprint can be represented on a sprint board maintained by the ScrumMaster
    - Burndown chart: an important artifact used to graphically display progress on each sprint

Monitoring and Controlling (2 of 2)

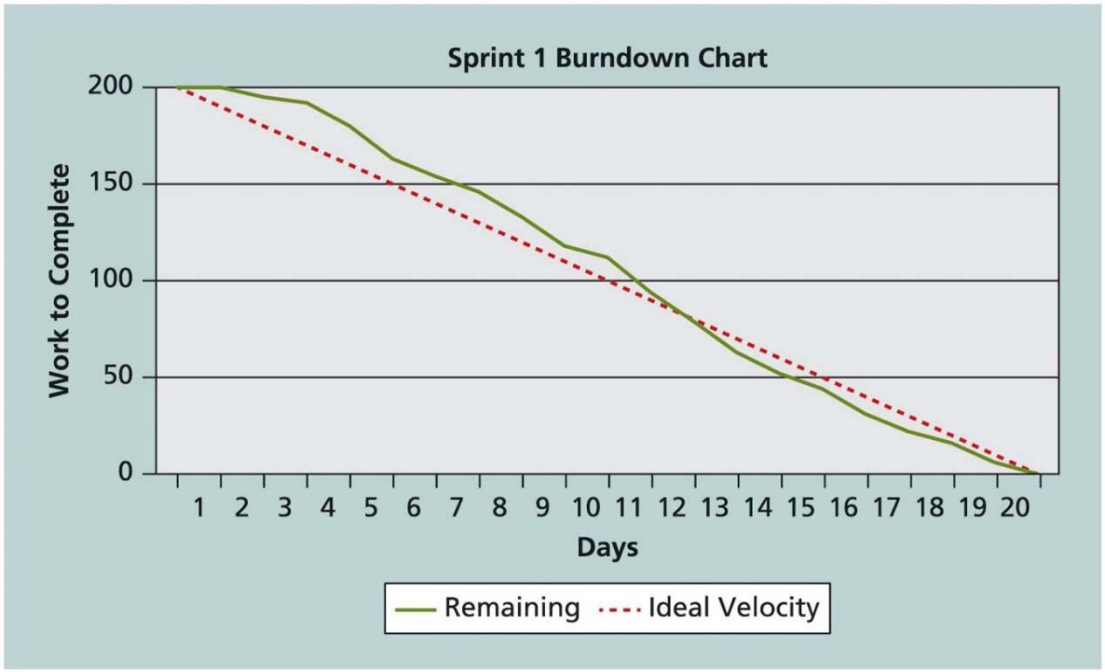


FIGURE 3-7 Burndown chart

Closing

- After the sprint review, the ScrumMaster leads a sprint retrospective
  - Team reflects on what happened during the sprint
- Sprint retrospective 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 by Process Group

- Table 3-20 lists several templates used to prepare the documents shown in this chapter and later chapters
  - Download these and additional templates in one compressed file from the Companion website for this text or from the author's website.

Advice for Young Professionals

- Most organizations have templates for many different kinds of documents
  - Ask your boss, co-workers, and other colleagues for templates
  - If you don’t like the templates you find, look at other sources
  - If you can improve them, share your work with others
- Templates are great, but completed templates with good information are even more useful

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
- 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 how to use Scrum, the leading agile method, to manage the project