6 Build and Support Team Performance

QUICKTEST

- Resource Management process
- Responsibility assignment matrix (RAM)
- RACI chart
- Organizational breakdown structure
- Resource breakdown structure (RBS)
- Organizational theory
- Resource management plan
  - Human resources management plan
  - Recognition management plan
- Team charter
- Resource histogram
- Resource leveling
- Types of team configuration
  - Dedicated
  - Part-time
  - Partnerships
  - Virtual
  - Pre-assigned
  - Agile
- Negotiating for resources
- Pre-assignment
- Halo effect
- Team building
- Team culture
- Colocation
- Individual and team assessments
- Hybrid assessments
- Project performance appraisals
- Key performance indicators (KPIs)
- Burndown charts
- Burnup charts
- Issue log

Introduction

This chapter will cover the technical project management skills related to working with human resources on projects that you need to know to pass the exam. These skills are part of the Process Groups model for predictive project management, along with related agile project management concepts. As you study this chapter, be mindful of the material in the "Leadership Skills" chapter. Technical project management skills are not enough to be successful in project management, or on the exam. Working with others is so important that 42% of exam questions are based on the People domain in the *Examination Content Outline* (ECO).

The ECO's Process domain does not have a task dedicated to human resources. Instead, the ECO combines interpersonal and team skills with the project management technical skills for leading teams and other stakeholders into the fourteen tasks in the People domain. The "Leadership Skills" chapter contains information on theories and models related to communication and human psychology, which is helpful in applying interpersonal and team skills.

Be sure to review this chapter's Quicktest before and after you read the chapter. Make note of the gaps in your skills and experience so that you can work to fill your gaps prior to taking the exam.

Overview of Building and Supporting Performance

Can we all agree it is amazing to be part of a high-performing team? Yet attaining and maintaining that performance level as a team takes effort. There are many things a project manager needs to do to build and support high performance within the project team and among all stakeholders, like applying the knowledge gained in the "Leadership Skills" chapter to the methods for acquiring resources, developing the team, and managing the team that are covered in this chapter.

The *Examination Content Outline* and Process Groups Model

The following shows the fourteen People domain skills, the Process Group model for resources management in predictive environments, and of course those *PMBOK® Guide* domains that most directly map to these skills. The People domain of the ECO focuses mostly on the project team, so this chapter starts there before covering the Process Groups model for (human) resources. Take a moment to glance down the first column here. Notice all tasks are dedicated to building and supporting the team. The Process Groups model, while focusing on technical project management activities, relies on skills in leadership and in supporting team performance.

ECO	Process Groups Model	PMBOK® Guide
Domain I	**Resource Management**	**Domain 2.2** Team
Task 1 Manage conflict	Plan Resource Management — Planning	**Domain 2.4** Planning
Task 2 Lead a team	Estimate Activity Resources —	
Task 3 Support team performance	Acquire Resources	**Domain 2.5** Project work
Task 4 Empower team members and stakeholders	Develop Team — Executing Manage Team	**Domain 2.6** Delivery
Task 5 Ensure team members/stakeholders are adequately trained	~~Control Resources~~ ~~Monitoring & Controlling~~	**Domain 2.7** Measurement
Task 6 Build a team		
Task 7 Address and remove impediments, obstacles, and blockers for the team		
Task 8 Negotiate project agreements		
Task 9 Collaborate with stakeholders		
Task 10 Build shared understanding		
Task 11 Engage and support virtual teams		
Task 12 Define team ground rules		
Task 13 Mentor relevant stakeholders		
Task 14 Promote performance through emotional intelligence		
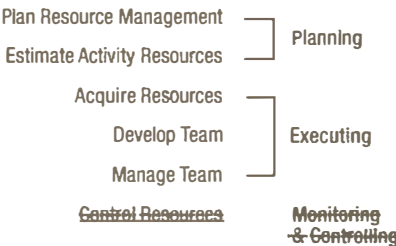
Think About It. ECO domain I: It's all about the people! Let's face it, you need to be doing all these tasks in the ECO domain, and the enablers serve as examples of the ways they may manifest on a project. As you look at this chart and the ECO, notice how many of the People domain tasks have the word "team" in the name.

We will talk more about the Process Groups model and agile methods later in this chapter, but for now, notice that we have crossed out Control Resources in the middle column of the above table. This is because that process is dedicated to material resources like equipment and supplies and not related to managing the team. The concept still applies to predictive project management but we discuss it in the Process domain chapter on "Budget and Resources," since the ECO addresses this process with that task.

TRICKS OF THE TRADE® We have broken the People domain's fourteen tasks into two groups of seven. This will make them easier for you to study. We grouped seven People domain tasks that fit easily into the concept of building performance. We then placed the remaining seven tasks into a group that fits nicely with the concept of supporting performance. The exercise below supports using this model. Don't worry about whether our model is perfect. You will not be tested on the task numbers or the order of the tasks in the ECO. Ultimately all these tasks are related and we include the task numbers in this book only to make them easy for you to find in the ECO.

TRICKS OF THE TRADE® Do not worry about memorizing ECO tasks and their enablers. What is important here is to make associations in your mind between these tasks and how they relate to building and supporting performance. Also think about the tasks in terms of the information you learned in the "Leadership Skills" chapter and what you are learning in this chapter. Having an understanding of the ECO tasks will help you prepare for situational questions on the exam better than memorization.

6.1 Exercise

If you have two different colored pens or highlighters available, use them to do the following. You want your markings on the ECO to be very visible.

- Open your downloaded copy of the ECO. If you have not printed it, please do so now.

- Then open the ECO to the People domain section.

  1. Look at the following lists, where we have broken the People domain tasks into "build" and "support" performance.
  2. In the People domain task list of your ECO, place a large, visible "B" under the task numbers in the ECO we have placed in the *Build* column below.
  3. Then place a large, visible "S" under the task numbers we have placed in the *Support* column below—in a different color, if possible.
  4. Now spend just two minutes going through the tasks and their enablers. Think of them as relating to *building* a team, and *supporting* a team, respectively.
  5. As you continue to prepare for the exam, take additional opportunities to review these tasks, their enablers, and their associations with building and supporting a team.

Note: We abbreviated some task names while maintaining their meaning.

Answer

People Domain Tasks – A Grouping Memory Trick

Building Performance		*Supporting* Performance	
(2)	Lead a team	(1)	Manage conflict
(4)	Empower team members & stakeholders	(3)	Support team performance
(5)	Ensure adequate training is provided	(7)	Address & remove impediments for the team
(6)	Build a team	(9)	Collaborate with stakeholders
(8)	Negotiate project agreements	(11)	Engage & support virtual teams
(10)	Build shared understanding	(13)	Mentor relevant stakeholders
(12)	Define team ground rules	(14)	Promote performance using emotional intelligence

Leadership Responsibilities

As the project work is being done, the project manager should know from the project charter what decisions they can make and enforce and when they need the approval of someone higher in the organization. It is important to understand how the role of the project manager interrelates to the other roles on the project, such as the project sponsor, the functional managers, and the team.

An agile team lead's roles are defined broadly in terms of being of service to the team. This means doing everything from the ECO People domain tasks. A good leader will focus on making sure the processes needed on the project are understood and being followed and that these processes are serving the needs of the team—to provide team training where needed and to remove impediments to project progress.

Agile
Focus

If there is a separate project manager role on an agile project, they interface with other appropriate stakeholders like the project sponsor and other organizational management. They also help with organizational change management when the project will usher in a big organizational change, and they watch for internal and external business environmental factors that may affect the project.

There are other responsibilities that a project manager role will fill on an agile project, where an agile team lead and a project manager role both exist on the same project, like leading a group of several agile teams on the same large and complex project. Assume the exam is using the term "agile coach" or "Scrum Master" interchangeably with "project manager," unless information in the question indicates otherwise.

Here are some important aspects of team leadership to know for the exam:

- The project manager's resource management activities are formal and require documentation.
- There should be clear roles and responsibilities on the project. For example, who should be assigned to assist the project manager, who should take on specific responsibilities at meetings, and who should be completing other work not directly related to project activities? Exam topics such as motivation, conflict management, and powers of the project manager are more challenging than you might expect. It's important to know that these concepts need to be planned for and managed throughout the project.
- Projects are planned by the team and coordinated by the project manager.
- Geographically and culturally diverse teams require additional attention and planning by the project manager.
- The project manager formally plans team-building activities in advance; these activities are a required part of project management.
- Creating a recognition and reward system is an important resource management function, and such systems are a required part of project management.
- The project manager is responsible for improving the competencies of team members so they are able to perform the work on the project most effectively.
- The project manager must continually confirm resource availability.
- The processes of resource management are repeated and updated throughout the project.
- The project manager is responsible for controlling physical resources on the project; this is not only the responsibility of procurement or other departments that may provide physical resources.

The resource management process takes time and effort to plan. You must do things such as identify all resources needed to complete the project (including the required skills of team resources and the required quality and grade of material or equipment), define everyone's roles, create reward systems, provide training and motivation for team members, manage the use of physical resources, and track performance.

Figure 6.1 is a visualization of team leadership at a high level from the Process Groups model perspective, which calls the process Resource Management. For this reason, we generally use the term "resource" in place of "team" when talking about the specific processes in the Process Groups model. The model will help you visualize the responsibilities and skills for the team leadership process, and although it applies most directly to the Process Groups model, many of the concepts make sense to know and employ on any project. Take a few minutes visualizing the process before moving on to the Plan Resource Management section of this chapter.
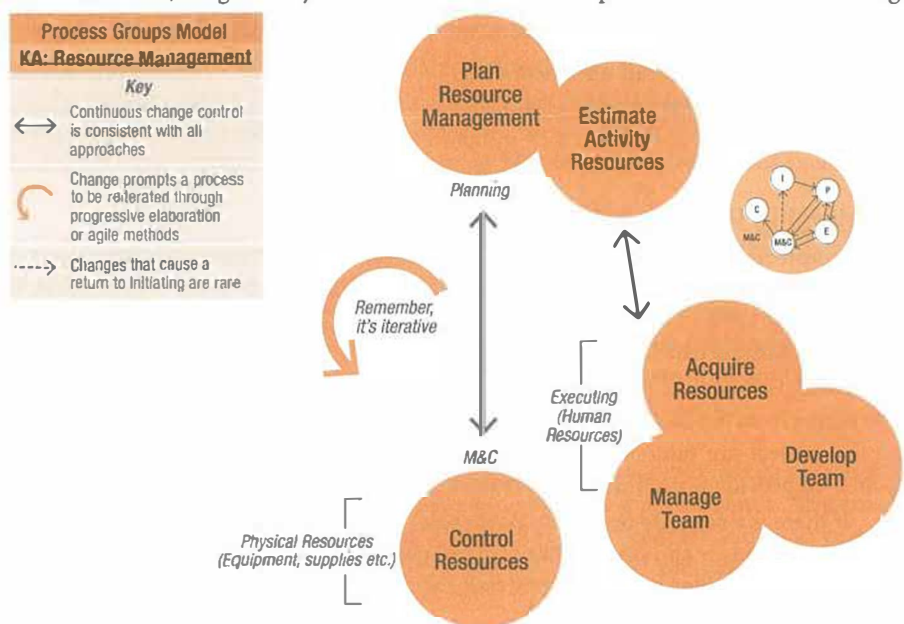

FIGURE 6.1   *Resource management process*

Plan Resources

Roles and responsibilities and the authority that goes with them are agreed upon in planning and documented in the resource management plan. Roles and responsibilities definition is a critical part of the Plan Resource Management process. Project work often includes not just completing work packages, but other responsibilities, such as assisting with risk, quality, and project management activities. Team members need to know what work packages and activities they are assigned to, when and how they are expected to report, what meetings they will be required to attend, and any other work they will be asked to do on the project. In a functional or matrix environment, the managers of team resources also need to understand when and for how long these resources will be needed on the project.

> **Process Groups Model**
> PG: Planning
> Process: Plan Resource Management
>
> **ECO**
> Domain I
> All Tasks
>
> **PMBOK® Guide**
> Domain 2.2 Team
> Domain 2.4 Planning
> Domain 2.5 Project Work

In short, Plan Resource Management answers the following questions:

- How are we going to do all this as a team?
- Who needs to be on the team to accomplish it?
- What do I need to do to be a good servant leader on this project?

Notice the sidebar for this section lists the ECO's People domain, "all tasks." In Plan Resource Management, you are planning to:

- Lead the team
- Empower the team
- Get the team the training they need
- Build that team (for high performance)
- Build and maintain a shared understanding

To do all this, you need to plan for negotiating project agreements and help the team define their own ground rules.

Now, that covers the "build performance" concepts discussed earlier in the first exercise in this chapter. What about the "supporting performance" work for the project, as the team gets to building the product and things get more challenging? Yes—you must support performance, too, by:

- Managing conflict
- Removing impediments
- Collaborating with (other) stakeholders
- Engaging and supporting a virtual team, if needed
- Mentoring stakeholders
- Using emotional intelligence to promote performance

Your plan must also answer questions such as:

- What resources are required?
- What quantity of each type of resource is needed to complete the project work?
- When and for how long will each resource be needed?
- Is there a limited time during which each resource will be available for the project?
- How will the resources be acquired?
- Are all resources available internally, or will the procurement department need to be involved?
- What will be the cost of these resources?
- How will resources be managed throughout the project?

On agile projects, it's more common for the same team members to remain on the project from beginning to end. Teams remain stable and projects are brought to the team. Team members are often "T-shaped" generalizing specialists—generalists in many things, expert of a few. Many agile team members share responsibilities for several roles; for example, testing as well as building the product.

(A) Agile Focus

Artifacts Needed for Planning Resource Management

Before you can define roles, responsibilities, reporting structure, and so forth, you'll need to consider many factors often already documented in the project management plan:

- **Project life cycle and processes** This should be determined for you to do resource planning.
- **Work approaches** How work will be done.
- **Communication needs of stakeholders** One of the most early documented factors.
- **Stakeholder register** This lists the individuals and groups who are project stakeholders. It includes analysis of factors such as each stakeholder's power and interest related to the project.
- **Stakeholder engagement plan** This includes the approach for team and other stakeholder involvement, for engaging them in the planning, decision-making, and project work.
- **Scope baseline** This includes descriptions of project deliverables and helps the project manager determine resources needed to create them.
- **Quality management plan** This includes agreed-upon levels of quality and grade of physical resources needed to satisfy project requirements. These decisions will impact the team's options in terms of how and where they will obtain these resources.
- **Procurement management plan** This plan describes how the project manager should interact with the procurement department to facilitate obtaining needed human or physical resources.

Project Documents Several project documents can be used to plan resources, for example, requirements documentation, the project schedule, and the risk and stakeholder registers. These documents provide key information for what type of resources will be needed to complete project work, the timeline for them, and how many resources will be required to get particular work done.

Enterprise Environmental Factors Before you develop a resource management plan, understand what enterprise environmental factors may come into play. These are the company culture and existing systems the project will have to deal with or can make use of. Consider the following:

- What internal organizations will be involved in the project?
- Are there hidden agendas?
- Is there anyone who does not want the project?
- Are assigned and potential team members colocated or based in different offices and/or countries?
- What is the availability of contract help?
- What is the availability of training for project team members?

Organizational Process Assets These can increase the efficiency of creating the resource management plan, and the effectiveness of the resulting plan. Consider assets such as:

- A resource management plan template (typically describes standard resource needs and responsibilities)
- Existing policies and procedures for resource management
- Historical information, such as lessons learned from similar projects

Methods for Planning Resource Management

There are many tools and techniques that can be used to document and communicate roles and responsibilities of management, team members, and other stakeholders. The *PMBOK® Guide* lists these as artifacts, but of course you also need to know how to use the data gathering and analysis methods (or tools) for creating these artifacts. Examples include:

- Responsibility assignment matrix (RAM)
- RACI chart
- The work breakdown structure (WBS)
- Organizational breakdown structure
- Resource breakdown structure (RBS)
- Organizational theory

For the exam, you will not be asked whether any of these are methods or artifacts. Rather, you will need to know what each tool displays and is used for so you can answer situational questions that include them.

Responsibility Assignment Matrix (RAM)

This chart cross-references team members with the activities or work packages they are to accomplish. Figure 6.2 is an example of a RAM. Note it does not show time, or when people will do their jobs.

	Team Member				
Activity	Karla	Patrick	Muhammad	Trisha	Key
A	P		S		P = Primary responsibility
B		S		P	S = Secondary responsibility

FIGURE 6.2   *Responsibility assignment matrix*

RACI Chart (Responsible, Accountable, Consult, and Inform)

This chart is a type of RAM that defines role assignments more clearly than the example shown in figure 6.2. Instead of the P and S shown in the figure, the letters R for Responsible, A for Accountable, C for Consult, and I for Inform are used. Note that multiple resources may be responsible, informed, or consulted, but only one person is held accountable.

Organizational Breakdown Structure

This tool (figure 6.3) is used to assign responsibilities to divisions or departments within the organization, such as marketing or IT. In a matrix environment, the project manager will interface with the managers of each department involved in the project to coordinate availability and scheduling of human and physical resources for the project.
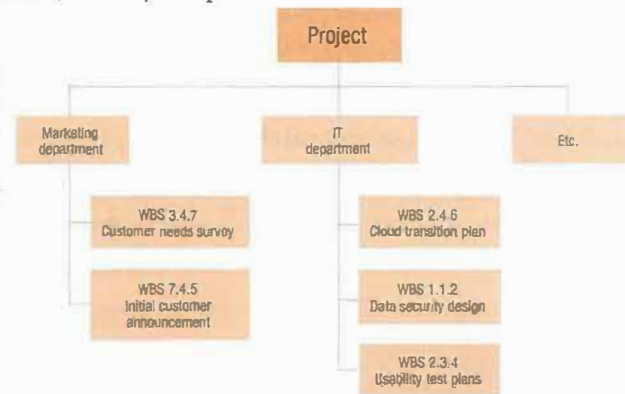
Resource Breakdown Structure (RBS)

A WBS is typically referenced to create this chart. Similar in format, the RBS breaks the work down by type of resource needed, as shown in figure 6.4.
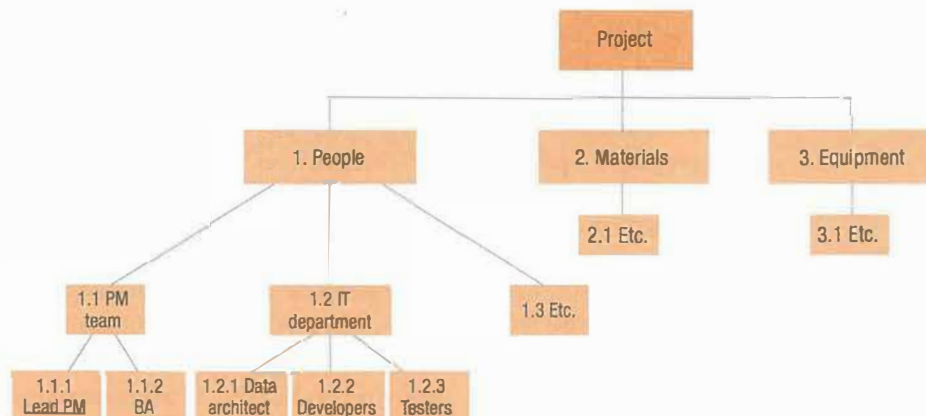

FIGURE 6.3   *Organizational breakdown structure*

FIGURE 6.4   *Resource breakdown structure*

Work Breakdown Structure (WBS)

You've already seen that we refer to a WBS to create an RBS. The WBS, which we discuss in the "Scope" chapter, is a great tool to ensure each work package has an "owner"—a team member responsible for that work.

131

Organizational Theory

Organizational theory is a method to study organizations to identify how they solve problems and how they maximize efficiency and productivity and meet the expectations of stakeholders. This analysis helps the organization develop effective resource management policies and procedures for the acquisition, management, and evaluation of human and physical resources. Adopting practices such as Lean, Kaizen, just in time (JIT), or Six Sigma influences how projects will handle the management of physical resources. These practices are covered in the "Quality of Deliverables and Products" chapter and the "Agile Methodologies" chapter.

Artifacts of Plan Resource Management

The Plan Resource Management process results in a resource management plan, a team charter (including ground rules), and updates to the project management plan and project documents such as the assumption log and risk register.

Resource Management Plan

If you manage small projects, think about what the resource management effort would involve on a large predictive project that has hundreds of assigned resources. Would it take more work than you are doing now to manage the resources on your project?

Components of a resource management plan include the following:

- **Human Resources (Team) Management Plan**
  - ✓ Team requirements (who, when, how many, what skills, what level of expertise, duration)
  - ✓ Roles and responsibilities
  - ✓ Project organizational charts
  - ✓ Process for acquiring human resources (internal or procurement)
  - ✓ Training, team development, and recognition (goals, what, when)
  - ✓ Project team management (team charter, ground rules, engagement, communications)
  - ✓ Compliance (How will the project comply with any rules related to human resources?)
  - ✓ Safety (policies to protect the resources)
  - ✓ Release of human resources

- **Recognition Plan**

  Recognizing individual and team accomplishments is one of the most effective ways to motivate people. It should include when and how resources will be recognized, and what actions or achievements will be rewarded.

  Everyone likes to feel appreciated. A good start to planning how to use recognition and rewards is to make a conscious effort to personally acknowledge the efforts of team members. A smile and a "thank you" are often more meaningful than you might think. To make the rewards more personal, you can ask team members and stakeholders what they want to get out of the project, on a professional and personal level. They might respond with such things as, "I want to learn more about XYZ," "I want to decrease the time I am allocated to this project," "I want to make sure I leave work on time on Tuesday nights because I have a family obligation," or "I want to be assigned a certain piece of the project work."

  As the project progresses, the plan may be iterated as new team members are added, and as the project manager becomes more familiar with the team and what motivates them. Recognizing and rewarding might include doing the following on an ongoing basis, while project work is being done:
  - ✓ Saying "thank you" more often
  - ✓ Awarding prizes for performance
  - ✓ Recommending team members for raises or choice of work assignments (which may not officially be part of the team members' performance reviews)
  - ✓ Sending notes about great performance to team members' managers
  - ✓ Planning milestone parties or other celebrations
  - ✓ Adjusting the project to assign people to activities they want to work on
  - ✓ Assigning a new team member to a non-critical-path activity so they can learn in that area

The list could go on and on, but ask yourself, "Do I do any of these things? Do I do them systematically?" This requires planning in advance and then iterating that plan as the project progresses.

Team Charter

This document is a working agreement developed by the members of the project team. The team charter describes the approach the team will take regarding communications, decision-making, and conflict resolution, as well as ground rules for team meetings. The team charter is a project document and can be referenced at any time during the project.

Setting ground rules can help eliminate conflicts or problems with the team during the project because everyone knows what is expected of them. And if team members have input on the creation of the ground rules, they're more likely to follow them. Ground rules can be especially important when the team is managed virtually.

The ground rules may include items such as the following:

- How a team member should resolve a conflict with another team member
- When a team member should notify the project manager that they are having difficulty with an activity
- Rules for meetings
- Who is authorized to give direction to contractors
- How the team will decide work assignments
- When and how to provide status updates to the project manager
- Methods for coordinating and approving changes to team members' calendars, both in normal and emergency situations

On predictive projects with unchanging requirements or technology, it is appropriate to plan thoroughly and then execute. But on agile projects key elements are likely to change so a high degree of planning may be inappropriate. Therefore, it's important for teams to have the processes (e.g., prioritization, demos, retrospectives) in place to allow for effective and efficient adjustments during the project.

Estimate Resource Requirements

At this point in resource planning the project manager and the team have a plan in place for how resource needs will be coordinated. In predictive project management, the project manager now must estimate the type and quantity of all resources needed to complete project work at the work package and activity level.

The resource management plan includes documentation on estimating methods that may be used. Other artifacts containing the needed information are on the following list. Remember that planning is iterative, so the team may use all these artifacts together to plan requirements while at the same time refining scope, schedule, and cost planning. These are artifacts of tasks in the Process domain:

> **Process Groups Model**
> PG: Planning
> Process: Estimate Activity Resources
>
> **ECO**
> Domain I
> Task 5 Ensure adequate training is provided
> Task 6 Build a team
> Task 8 Negotiate project agreements
>
> **PMBOK® Guide**
> Domain 2.4 Planning

- **Scope baseline and activity list** (see "Schedule" chapter).
- **Work breakdown structure (WBS)** Work package estimates are created while planning scope.
- **Network diagram** Activities are shown in the network diagram (see the "Schedule" chapter).
- **Activity attributes** These provide specific information about each activity, like the type and quantity of resources expected to be needed to complete those activities.
- **Cost estimates** These provide resource estimating constraints since resource costs must fall within the cost baseline.
- **Resource calendars** Also related to Schedule Management, these identify organizational work hours and company holidays, thus helping to show the availability of potential resources.
- **Organizational process assets** Established policies and procedures are always considered when arranging for staff and needed equipment.

Methods for Estimating Resource Requirements

Estimating techniques are discussed in the "Schedule" and "Budget and Resources" chapters. Several of those techniques, such as analogous estimating, may also be used to estimate activity resources. Here are some other methods to know for the exam about estimating resources.

Resource Histograms and Resource Leveling

Resource histograms and resource leveling are methods for the "what if" analysis to refine estimates and ensure resources are available when they are needed, and not when they are not needed.

Resource Histograms This tool provides a method for visualizing resource requirements and comparing required resources to their availability to better enable estimating. Figure 6.5 shows a resource histogram (a bar chart) illustrating the number of resources needed per time period. It allows a project manager to easily see where there is a spike in the need for resources. If the people are not available when they are needed, the project manager must evaluate available options, which may include:

- Negotiating with another department to provide resources
- Procuring the resources from an external source
- Adjusting the schedule to do the work when the resources are available
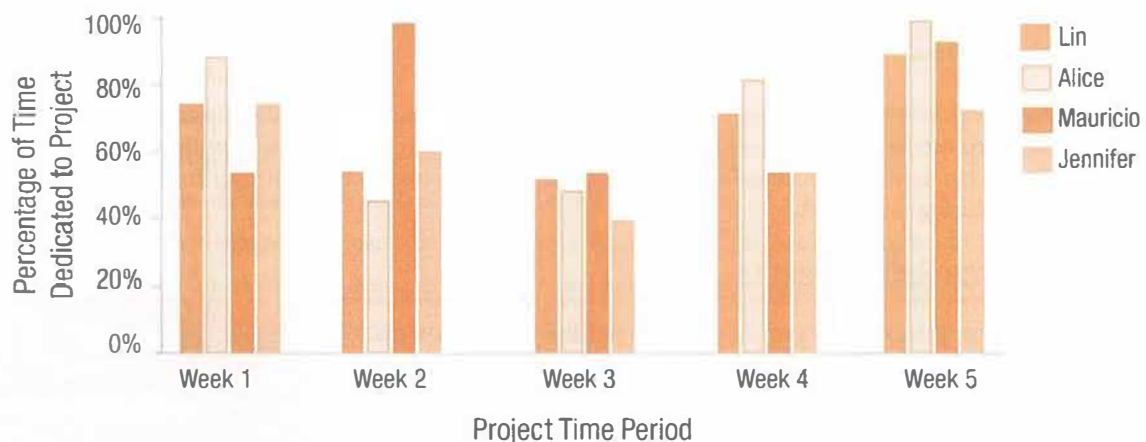

FIGURE 6.5 *Resource histogram*

Resource Leveling This technique may be used to change a project to minimize the peaks and valleys of resource usage (level the resources). A resource histogram can also be used to help perform that task.

Artifacts of Estimate Resource Requirements

After estimating resource requirements the project manager and the team will have determined requirements for project activities, including cost, quantity, and availability of team members. Remember from figure 6.4, the requirements may be documented in a resource breakdown structure (RBS), so this artifact will have undergone another iteration.

6.2 Exercise

In the below table, identify which activities are involved in Estimate Activity Resources. Here or in your Exercise Notebook write "Y" if the described action is part of the Estimate Activity Resources process. If it's not, write "N."

Action: Is it part of Estimate Activity Resources? (Y/N)

1. Review project management plan.
2. Review scope baseline.
3. Review resource availability.
4. Review cost estimates.
5. Get one time estimate per activity.
6. Complete an analysis of the reserves needed on the project.
7. Create a company calendar identifying working and nonworking days.
8. Create milestones.
9. Review the WBS, activity list, and activity attributes.
10. Review the risk register and assumption log.
11. Identify potentially available resources and their skill levels.
12. Review historical information about the use of resources on similar projects.
13. Review organizational policies on resource use.
14. See how leads and lags affect the time estimate.
15. Solicit expert judgment on what resources are needed and available.
16. Create bottom-up, analogous, or parametric estimates.
17. Analyze alternative equipment or methods to use in completing the work and approaches to better utilize resources.
18. Show network dependencies per activity.
19. Identify areas of the project that cannot be completed internally or would otherwise be more efficiently achieved through outsourcing. This information will be shared with the procurement department.
20. Crash the project.
21. Break the activity down further if the activity is too complex to estimate resources (bottom-up estimating).
22. Quantify resource requirements by activity.
23. Create a hierarchical image that organizes the planned resources by their category and type (a resource breakdown structure).
24. Fast track the project.
25. Develop the schedule.
26. Develop a plan as to what types of resources will be used.
27. Update project documents.

Answer

Action: Is it part of Estimate Activity Resources? (Y/N)

1. Y	7. N	13. Y	19. Y	25. N
2. Y	8. N	14. N	20. N	26. Y
3. Y	9. Y	15. Y	21. Y	27. Y
4. Y	10. Y	16. Y	22. Y	
5. N	11. Y	17. Y	23. Y	
6. N	12. Y	18. N	24. N	

Acquire (and Release) Resources

The sidebar tells you that once again we have mapped Acquire Resources from the Process Groups model to all tasks in the People domain. In predictive environments this process describes how people join the project at the times needed to complete their work. While this process is called "Acquire Resources," releasing people from the project happens throughout it as they finish their work. As the project manager on-boards new team members, works with them, and releases them from the project the project manager is indeed combining all tasks associated with the People domain.

Notice that in the Process Groups model this is an executing process. It involves following the resource management plan to secure people as they are needed. The resource requirements documentation tells the project manager what types of team members are needed, and the resource management plan describes from where team members will come (from within the organization or as contractors, for example). The schedule and cost baselines provide essential information regarding when different team members will be required and the amount of funds budgeted to pay for them.

To understand why this is an executing process, think of a large project that may last a very long time, require a hundred or more people and lots of physical resources.

- A planning team is acquired early in the project to help the project manager.
- Many of the people needed for the work may not be needed until long after the project starts.
- The final team list might include contractors, sellers, and people who will work on the project far into the future and may not even be employed by the company until needed.
- Over time people and physical resources will enter and leave the project as their associated work is needed.

The project manager will also use the resource requirements documentation as a reference in acquiring physical resources. Often this involves working with the procurement or inventory management department.

As mentioned earlier when resource calendars and resource leveling was discussed, resource availability is coordinated to ensure that the right resources will be available when they are required.

To review, acquiring project resources includes all the following:

- Knowing which resources are preassigned to the project and confirming their availability
- Negotiating for the best possible resources
- Hiring new employees
- Hiring resources through the contracting process from outside the performing organization (outsourcing)
- Using JIT, Lean, or other methods as required by the organization
- Managing the risk of resources becoming unavailable

Process Groups Model
PG: Executing
Process: Acquire Resources

Domain I
All Tasks

PMBOK® Guide
Domain 2.2 Team
Domain 2.5 Project Work
Domain 2.6 Delivery

Agile Teams

An agile environment looks a little different from the predictive environment described in the Acquire Resources process. Here is how it typically works. Agile teams:

- **Are stable** They work together over time, and projects are brought to the team, not the other way around. This practice takes advantage of time and effort taken to bring a team to the level of high performance. Team members are on the project together from start to finish, so the scenario describing acquiring and releasing resources throughout the project does not apply.

- **Are relatively small** They include about 8-12 people. Although this range may vary slightly depending on what source you consult, it is a good rule of thumb to describe team size. Agile projects are typically smaller than their plan-driven counterparts, and although they can be very large, the exam does not test agile on a large scale.

- **Have all needed team members** An agile team typically includes the project manager (for the exam, a role akin to an agile coach or Scrum Master), product owner, product developers, and testers.

Hybrid Environments

On a hybrid project it is not unusual to plan the overall project using predictive methods and then build the product features using iterative and incremental (agile) methods. Variations on these approaches depend on the project and the business environment.

Types of Team Configurations

The makeup of the final project team can take one or a combination the following:

Dedicated Teams Most of the team members work full-time and exclusively on the project. Team members can dedicate most of their energy to the project and often report directly to the project manager. In a predictive environment, these are most common in projectized organizations, but can also be found in matrix organizations. They're least likely to exist in functional organizations.

Part-time Team Members Team members and the project manager spend a portion of their time working on the project while also working on other projects and/or their operations-related work responsibilities. Part-time teams are most often seen in functional and matrix organizations.

Partnerships In cases where several organizations undertake a project, the teams are likely to consist of people from each of the participating organizations, plus the project manager from the organization taking the lead on the project. Such teams may offer advantages, such as cost savings, but team management and communication can be more difficult.

Virtual Teams Geographic distance necessitates the use of virtual teams, and technology can help with virtual team communication (see the "Communications" chapter). Advantages of virtual teams are that the project manager can negotiate for the best resources needed without regard to location and, increasingly, people see working virtually as a personal value added.

Pre-assigned Team Members As noted earlier, sometimes resources are assigned before the project begins. Preassigned resources are listed in the project charter.

Agile Team Structures Remember that dedicated teams are important on rapidly changing agile projects. In these environments, more information is communicated face-to-face and tacit knowledge is more valuable. Agile organizations also try to avoid virtual teams where possible. Technology helps agile teams work virtually, but face-to-face communication is always preferred.

TRICKS OF THE TRADE For the exam, be aware how the type of team described in a situational question could impact the project manager's work. For example, the project manager will have more rapport with a dedicated team. With a part-time team, the project manager will likely have to negotiate with functional managers and organizational leadership to acquire and retain team members. With a partnership or virtual team, coordination among the various organizations or locations might require increased risk management work, more effort to coordinate communication, and so on.

Negotiating for Resources We mainly reference negotiation in this book in two contexts: procurement and onboarding internal resources. If people need to be hired or contracted, the project manager may need to work with the human resource or procurement departments. This section covers negotiating for internal resources, which are always constrained. To negotiate for team members from within the organization, the project manager should do the following with each resource manager:

- Know the needs of the project.
- Know the project's priority in the organization's initiatives.
- Be able to express how the resource manager will benefit from assisting the project manager.
- Understand that each resource manager has their own priorities and supporting the project may not be of direct benefit to them.
- Do not ask for the best resources if the project does not need them.
- Be able to prove, using artifacts like the network diagram and project schedule, why the project requires the stated quantity and quality of resources.
- Try to discover what the resource manager may need.
- Be open to finding creative ways to help the resource manager meet their own resource needs.
- Build relationships in order to call on the expertise of the resource manager later in the project as necessary.
- Work with the resource manager to deal with situations as they arise.

Methods for Acquiring Resources
There are several methods for acquiring resources. Here are the main ones to know for the exam.

- Multicriteria decision analysis
- Interpersonal and team skills
- Pre-assignment
- Virtual teams

The project manager may establish a set of criteria to help choose potential team members. Factors that address the needs of the project, such as availability, cost, experience, location, and/or a required skill set, are weighted by importance, and the project manager evaluates potential team members based on the selected criteria.

Pre-assignment
Sometimes resources are assigned before the project begins. Preassigned resources are documented in the project charter. Beware, however, of the halo effect.

Halo Effect Project managers (and managers in general) have a tendency to rate team members high or low on all criteria due to the impression of a high or low rating on one specific criterion.

Example A project manager might say to a team member who is a great programmer: "We are making you a leader of a programming team for the project and think you will be great at that." Since a person who is a great programmer may in fact, be neither qualified nor want to be a team leader, such assumptions may have negative impacts on the project schedule, cost, quality, and team morale.

Artifacts of Acquire Resources

Outputs from the Acquire Resources process are:

- Resource assignments
- Resource calendars showing the planned utilization and availability of resources
- Project management plan updates:
  - ✓ Resource management plan
  - ✓ Cost baseline
- Project document updates:
  - ✓ Lessons learned, risk register, resource requirements
  - ✓ Resource breakdown structure (RBS), stakeholder register, project schedule

Think About It. Take a look at the list of outputs from Aquire Resources again. For exam questions, you will need to understand these intuitively, but to also quickly know, "Where am I in the project management process?"

Example If a scenario decribes adjusting a plan and uses future tense (like "adjusting the plan that will be used...") without mentioning integrated change control, is it an agile project? If it is not an agile project, then you are probably in planning and should pick an answer related to planning.

Here are things to remember about what you have from (outputs of) the Acquire Resources process:

- If decisions made in this process require changes to approved management plans or project documents, change requests are submitted to integrated change control. Affected documents and plans may include any of the plans or baselines within the project management plan.
- The resource management plan may be changed based on the project experience to date. For example, the plan to acquire future team members may need to be adjusted if it doesn't work as expected.
- The project schedule may need to be adjusted to accommodate the availability of people with specific expertise needed by the project. The cost baseline may be impacted if hourly rates are different from what was estimated.
- Project documents need to be updated or changed, with new team members added or information changed in the stakeholder register. The resource breakdown structure is iterated to include specific information about people that have been committed to the project.
- Newly identified risks related to human resources are added to the risk register, reviewed, and analyzed. For example, a person with unique qualifications could be called away during the project.
- Resource requirements, including the type, quantity, and skill level may change.
- There are usually lessons learned to be captured, integrated into the project for future work, and shared with the organization.

Develop Team

Models for human development and motivation were discussed in the previous, "Leadership Skills" chapter. Again here, all the People domain skills are also needed. The Develop Team process involves the work to lead, empower, and motivate the team to achieve high performance levels in meeting project objectives.

A plan for making all this happen should be included in the resource management plan. And the project manager will need to make use of lessons learned earlier in the project and on other, similar projects. Before continuing, go back to the "Leadership Skills" chapter and review the models there. They are useful for distilling complicated human interaction into understandable common experiences.

Process Groups Model
PG: Executing
Process: Develop Team

ECO
Domain I
All Tasks

PMBOK® Guide
Domain 2.2 Team
Domain 2.5 Project Work
Domain 2.6 Delivery

Methods for the Developing Team Process

Here are the methods for developing a team:

- Colocation
- Virtual teams
- Interpersonal and team skills
  - ✓ Team building
  - ✓ Conflict management
  - ✓ Influencing
  - ✓ Motivation
  - ✓ Negotiation
- Recognition and rewards
- Training
- Individual and team assessments
  - ✓ Individual assessments
  - ✓ Team assessments
  - ✓ Hybrid assessments
  - ✓ Project performance appraisals
  - ✓ Key performance indicators (KPIs)
- Communications technology for virtual teams

Team Building

Team building can play a major role in team development—helping to form the project team into a cohesive group working for the best interests of the project and enhancing project performance. Strong teams will result when you know the following key points:

- It is the project manager's job to guide, manage, and improve the interactions of team members.
- The project manager should work to improve trust and cohesiveness among the team members.
- The project manager should make sure that the project vision is clear, and continuously communicate that vision.
- The project manager needs to ensure that roles and responsibilities are clearly defined.
- The project manager should incorporate team-building activities into project activities.
- Team building requires a concerted effort and continued attention throughout the life of the project.
- Team building should start early in the life of the project.

Project managers who feel they do not have time for team building typically are not using project management best practices on their projects. Practices such as properly planning a project and managing risks and quality save significant amounts of time on a project, freeing up the project manager to do other important things, like team-building activities. When you take the exam, assume the project manager featured in the questions has a team-building plan appropriate to the size and characteristics of the team.

Team-building activities can include the following:

- Involving team members in planning the project, including creating the WBS or backlog as a group
- Taking classes together
- Retrospectives by the team to evaluate and improve their processes and interactions
- Collaborative problem-solving
- Milestone parties
- Holiday and birthday celebrations
- Skills assessments and development

Team Culture

The project manager plays an important role in developing a positive team culture. While human beings are complex and will create their own habits and relationships, the project manager can lead by example to create a positive work environment. Here are some of the ways this can be done:

- Transparency
- Integrity
- Respect
- Positive interactions
- Support
- Courage
- Celebrating successes

The more a project manager works to display the actions they want to see from team members, the more successful the leader, the team members, and the project will be. All these traits also lend to a safe and open environment where people feel comfortable to voice opinions, bring up issues, and solve any problems as a cohesive team.

Colocation

A project manager might try to arrange for the entire team in each city to have offices together in one place or one room. This is called colocation, and it helps improve communication, decreases the impact of conflict (since all parties are right there), and improves project identity for the project team and for management in a matrix organization. The project charter, work breakdown structure (WBS), network diagram, and schedule may be posted on the walls to keep everyone focused on the work of the project. Adaptive development approaches encourage colocation.

Virtual Teams

Not all teams meet face-to-face. Virtual teams have to rely on other forms of communication to work together. Although virtual teams can be more challenging to manage because of communication issues and differences in schedules, languages, and/or culture, they offer the opportunity to benefit from the expertise of team members who are in distant locations or who are otherwise unavailable to participate with the team onsite.

The challenge for virtual teams is finding ways to create "virtual colocation"—in other words, replicate the benefits of face-to-face collaboration, osmotic communication, tacit knowledge , and improved relationships that come from working near each other. Fortunately, the same tools making virtual teams more common also provide ways to simulate the benefits of face-to-face collaboration. Let's look at some examples.

Videoconferencing and Live Chat These tools can be used to simulate a shared team environment and allow virtual stakeholders to chat and interact as if their colleagues were within earshot.

Interactive Whiteboards These tools allow team members to share content with multiple locations and collaborate in a visual whiteboard-type environment.

Instant Messaging (IM) Instant messaging allows people halfway around the world to communicate instantaneously with ease.

Presence-based Applications These applications extend IM capabilities by managing the status of participants to create a virtual office environment for sharing information.

Virtual Kanban Boards These allow for the use of a Kanban board with a virtual team. Kanban boards are discussed in the "Communicatons" chapter.

There may be questions on the exam that:
- Ask why virtual teams might be necessary
- Describe situations that involve acquiring and managing virtual teams.
- Describe a situation in which choosing the correct answer depends on your understanding that a virtual team might require a different approach than a colocated team.

Individual and Team Assessments

The best assessments are only useful if we put them to work to improve performance. Here are some practices through which the project manager can help the team to develop into and remain a high-performing team.

Individual Assessments The more the project manaager knows about each person on the project team, the easier it is to build trust, improve team communication, and encourage cooperation among team members. Personnel assessment tools can help the project manager learn more about team members by revealing how they make decisions, interact with others, and process information. This information can provide insight into how to lead and guide the team. Formal and informal assessment of team members by the project manager should continue throughout the project.

Team Assessments The project manager completes formal and informal team performance assessments as part of developing the project team. These assessments are meant to evaluate and enhance the effectiveness of the team as a whole. They may include an analysis of how much team members' skills have improved over the course of the project; how well the team is performing, interacting, and dealing with conflict; and how they are progressing through the stages of team

development. The assessments also help identify needed support or intervention by the project manager. Such assessments should be ongoing while project work is being done. The results of team assessments can be used to recognize the team's progress or to motivate them to improve. Think of team performance assessment as looking at team effectiveness. The results of these assessments are also inputs to the Manage Team process, in which the project manager uses them to address issues identified.

Hybrid Assessments One way to assess individual team members is to designate them as I-shaped or T-shaped. More information about these types is in the "Leadership Skills" chapter.

Project Performance Appraisals

Project performance appraisals are evaluations of individual team member performance. In this effort, the project manager collects information from team members' supervisors and adjusts the project accordingly. It's also important to understand that an appraisal might bring to the project manager's attention the need to provide additional training or encouragement to a team member. Note that the focus of this appraisal is on the individual's performance of their assigned responsibilities, rather than on team performance.

Because the Develop Team and Manage Team processes are performed at the same time, it is sometimes difficult to determine what happens in which process. For example, did you know project performance appraisals are performed as part of Manage Team, while the rewards and additional training indicated by the results of those appraisals are given as part of Develop Team?

Key Performance Indicators

Key Performance Indicators (KPIs) are measures used to review project performance. Project managers use KPIs to assess their team's performance and help plan the project as it is ongoing. This is conceptually related to earned value measurement (EVM) for baseline performance (also called earned value analysis or EVA), which is covered in the "Budget and Resources" chapter.

KPIs can be used to estimate the cost of the project at a given time. The following uses an agile focus as an example but this can be done on any project.

- **Rate of progress** How many user stories and features is the product owner accepting per time period?
- **Remaining work** How much work is left to complete?
- **Likely completion date** This is the remaining work left to complete, divided by the current rate of progress. For example, the number of user stories (times their story point numbers) divided by the team's current velocity.
- **Likely costs remaining** This could be a simple salary rate for the team multiplied by the remaining weeks. On traditional or more complex projects this is likely to be a more comprehensive costing calculated to include personnel as well as equipment and other contracted costs.

6.3 Exercise

In your Exercise Notebook, write down the answer to this question: What does a project manager need to do to develop a team? Before looking at the answer, write down all you can think of for developing the team. The exam will emphasize your understanding of the interpersonal and team skills needed to be a good project manager.

Answer

You may do some of the activities listed below on your projects, even if you may not plan them formally or consistently. Keep them in mind for the exam to help you understand the situations described and select the best answer choices. The project manager must ensure the team is working together as effectively and efficiently as possible.

Checklist: Developing the Team

☐ Use soft skills, such as mentoring, leadership, negotiation, influencing, and openness.

☐ Seek to empathize, and practice active listening.

☐ Encourage teamwork. Lead by example. Be a project leader, but be a peer, too.

☐ Communicate honestly, effectively, and in a timely manner.

☐ Assess and act in harmony with team members' strengths and weaknesses, learning styles, and preferences.

☐ Establish and maintain trust among team members and all stakeholders.

☐ Collaborate to create a shared vision.

☐ Use participatory decision-making where possible; work to find mutually beneficial solutions to issues.

☐ Embrace cultural differences and capitalize on them for enriching team life.

☐ Hold team-building activities.

☐ Help foster a sense of team identity.

☐ Set realistic goals.

☐ Provide training for team members as needed.

☐ Support the upholding of agreements made with the team charter.

☐ Allow team members to resolve conflict on their own but assist with resolution when needed.

☐ Make the environment one full of recognition and rewards.

☐ Co-locate the team if possible; work hard to support virtual teams.

☐ Facilitate team communication.

☐ Evaluate and work to improve team performance; be creative and also get team involvement.

Artifacts of Develop Team

The outputs of the Develop Team process include:

- Results of assessments
- Change requests
- Updated project documents
  - ✓ Team charter
  - ✓ Lessons learned
  - ✓ Schedule
  - ✓ Assignments and resource calendars
- Organizational process asset updates
  - ✓ Training requirements changes
  - ✓ Newly adopted team-building exercises
- Revisions to existing templates for assessments

These results are direct inputs to the Manage Team process, the subject of the next section. Remember that they provide insight for the project manager toward continuous improvement of performance. If the project manager determines changes to plan documents affecting the performance measurement baseline are needed, they must process these through integrated change control.

143

Manage Team

Manage Team involves the day-to-day management activities that you're likely already doing on projects, and you are probably very good at it. But it is important to solidify your knowledge from an exam perspective.

First, we have our updated project management plan and documents from all other processes, not least of which is Develop Team. Details related to team-management activities are included in the resource management plan. Aside from those artifacts listed for the process of developing the team, other things that go into this may be the:

- Issue log
- Project team assignments (possibly documented in a RACI chart)
- Team charter
- Work performance reports

Process Groups Model
PG: Executing
Process: Manage Team
ECO
Domain I
All Tasks
PMBOK® Guide
Domain 2.2 Team
Domain 2.5 Project Work
Domain 2.6 Delivery

The work performance reports provide an indication of project progress as compared to the project management plan. This information is used to identify necessary corrective actions. The project manager analyzes results from performance assessments to identify successes that need to be recognized, areas in which the team may need additional support or assistance, and issues or conflicts that need to be resolved in this process. Team members are also released as their work is completed.

Here are some reminders of what to do during the Manage Team process, to help team members sustain high performance:

- Observe what is happening
- Track and evaluate team performance
- Provide leadership
- Mentor team members
- Plan and facilitate career development
- Deal with team issues

- Look for conflicts team members cannot resolve on their own
- Facilitate conflict resolution
- Negotiate and influence
- Adjust plans based on performance data
- Manage risks to team success
- Use an issue log to track resolution

Methods for Managing the Team

Interpersonal and team skills are a primary method of managing the team, including conflict resolution, emotional intelligence, leadership, and influencing. Part of supporting a high-performing team is assessing how each team member is fulfilling their responsibilities. Project performance appraisals and progress tracking provide this information on individual team members. Earned value measurement (EVM), discussed in the "Budget and Resources" chapter, reflects how the project is progressing relative to planned progression. This is a window into how the team is performing (as well as whether the plan needs to change).

Burndown and burnup charts are used on an agile project to track team performance. These charts can be part of the information radiators.

Agile Focus

Burndown Charts
Burndown charts track work to be done on a project. As work is completed, the progress line on the chart will move downward, reflecting the amount of work that still needs to be done. They are commonly used to measure the team's progress in completing the project work. A sample burndown chart is shown in figure 6.6.

Burnup Charts
Burnup charts track the work that has been completed. Therefore, over the course of the project, the progress line on a burnup chart will move upward, showing the increasing amount of work that has been completed. The big advantage of using a burnup chart is that it can show changes in scope, making the impact of those changes visible. A sample burnup chart is shown in figure 6.6.

144

Note: Keep in mind that this is also a very important tool for controlling scope, schedule, and cost. Rather than repeating the information in each of those chapters, it will be cross-referenced from this chapter.
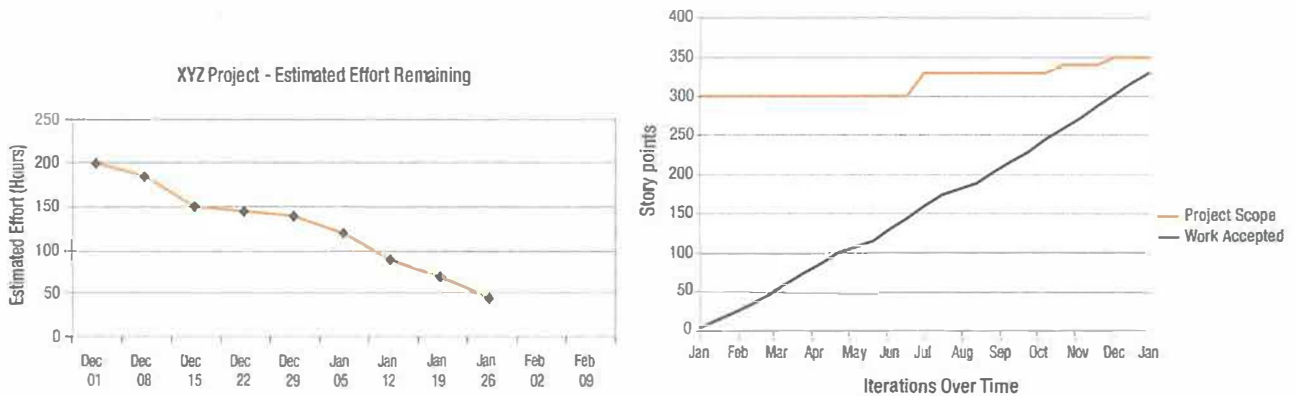

FIGURE 6.6 *Burndown chart (left); burnup chart (right)*

Every project is different and presents unique challenges to the project manager. Factors such as the size and makeup of the team, the experience level of the team, and the complexity of the actual project work must be considered by the project manager in their efforts to get the best from the team.

Think About It. If you were an observer of your project management work, what would you see? Do you tend to busy yourself with reports rather than really seeing what the team is doing, how team members are interacting, what they feel is missing or doesn't work, and what may be generating problems? Whether your team is colocated or virtual, paying attention to the tone of interactions, including emails and phone conversations will tell you more about what is going on than simply analyzing data. A project manager should observe what is happening and talk to people to understand how things are going.

Artifacts of Manage Team

The outputs of the Manage Team process include:

- Updated project document
  - √ Issue log
  - √ Lessons learned
- Enterprise environmental factors like human resources evaluation systems
- Organizational process assets like human resources appraisal templates
- Change requests (resource needs, costs, schedule or any part of the project management plan)

Plans for releasing team members are included in the resource management plan. Because the length and focus of assigned work varies, team members may be released at different times throughout the project, as their work is completed.

Issue Log

Many project managers use issue logs, also known as issue registers or action item logs, to record problems and their resolutions. Because it is updated to reflect new issues as well as the resolution of issues, it is frequently an input and an output of the same processes.

As part of managing team members and stakeholders, the issue log can be used to communicate about issues on the project. It facilitates the assessment of the causes of issues, the impact of issues on scope, schedule, cost, risk, and other aspects of the project, and the recommendation of corrective actions that could be taken. Such a log indicates to people that their needs will be considered, even if they are not addressed at the time the issue arises. Effective project managers control issues so they do not impact the project. The issue log is updated as part of project documents updates throughout the project.

145

An issue log might look like the one shown here.

Issue #	Issue	Date Added	Raised By	Person Assigned	Resolution Due Date	Status	Date Resolved	Resolution

FIGURE 6.7   *Issue log*

An issue log should be customized to meet the needs of the people who will be using it. For example, an issue log could include more detail—such as a description or the category of the issue (such as team, schedule, or technical)—as preferred by the team.

Putting It All Together

Be diligent when you study this and the previous chapter. Many students think this is an easy topic and do not study enough. For the exam, you should know the different motivational theories, management styles, understand servant leadership, emotional intelligence, and how to manage conflict.

Review the QuickTest to make sure you understand these concepts and that you don't have any gaps in your knowledge. Then complete this exercise.

6.4 Exercise

For each Resource Management process, give an example of the work the project manager on the library project should perform. Write the answers in your Exercise Notebook.

Resources Process

1. Plan resource management
2. Estimate activity resources
3. Acquire team
4. Develop team
5. Manage team

Answer

Did you come up with some of these? You may have identified some other examples.

Resources Process	Example of work
1. Plan resource management	Since the city has few employees available to help with the project, the project manager will identify companies who can provide the needed talent to the team.
2. Estimate activity resources	The project manager requested public records for the last two libraries built in the same county as this one to research the time and costs used.
3. Acquire team	The project manager used past library construction records to list the skills needed for the team. These skills were provided to the outsourcing companies. Resumes were reviewed for matches to the needed skills. The head librarian assisted with evaluating potential workers.
4. Develop team	Schedule training in cyber security for the IT team.
5. Manage team	Bi-weekly meetings with key team members are scheduled to check on progress and outstanding issues.

The following exercise tests your knowledge of some typical roles on a project. Do you remember the discussion on project roles in the "Project Management Foundations" chapter? Your understanding of that content will impact how well you do on this exercise. You may want to review those pages before starting this exercise, or use the information in that chapter to fill your gaps.

6.5 Exercise

Here or in your Exercise Notebook, write the initials of the key role responsible for solving each of the issues listed. Because much of the confusion for students is between roles of team members (T), the project manager (PM), the sponsor (SP), and the functional manager (FM), this exercise is limited to those roles.

Consider what you have learned about project roles and remember to keep matrix organizations in mind when reading through these situations.

Situation

1. Two project team members are having a disagreement.
2. There is a change to the overall project deliverable.
3. A functional manager is trying to pull a team member off the project to do other work.
4. The project manager does not have the authority to get things done.
5. There are not enough resources to complete the project.
6. The team is unsure of what needs to happen when.
7. An activity needs more time and will cause the project to be delayed.
8. An activity needs more time without causing the project to be delayed.
9. A team member is not performing.
10. The team is not sure who is in charge of the project.
11. There is talk that the project may no longer be needed.
12. The sponsor provides an unrealistic schedule objective.
13. The team is in conflict over priorities between activities.
14. The project is behind schedule.
15. A team member decides another method should be used to complete their activity.
16. The project is running out of funds.
17. Additional work that will increase cost (not identified during the risk management process) is added to the project.

Answer

This exercise is designed to help you answer situational questions on the exam dealing with roles and responsibilities. If you disagree with some of the answers, make sure you are not reading something into the question, and assess whether it indicates a gap in your project management knowledge.

Make sure you have a clear understanding of how stakeholder, communications, and human resource management relate to each other. This will help you answer questions correctly on the exam.

	Role	Explanation
1.	T	People involved in a conflict should attempt to resolve it themselves.
2.	SP	A change to the overall deliverable is a change to the charter. Only the sponsor can approve changes to the project charter.
3.	T	Assume project management is done right (unless an exam question tells you otherwise). The project manager gives team members enough information (e.g., schedule, network diagram, project management plan, identified risks) so they can manage their own workloads. The word "trying" denotes this situation is occurring in the present. If it said "has pulled," the answer would be the project manager. Read situational questions carefully.
4.	SP	It is the sponsor's role to give the project manager authority via the project charter.
5.	SP/FM	The sponsor and functional manager control resources.
6.	PM	The project manager takes individual time estimates, combines them into the project schedule, and communicates that schedule to the team.
7.	SP	The project completion date is most likely in the project charter. Notice the word "will." This means the evaluation by the team is completed and there is no available reserve. Any such changes are changes to the project charter and require sponsor involvement.
8.	PM	It is the project manager's role to look for impacts to the other project constraints. (Think about integrated change control here. It may need to be used but we don't know since the indication is that the schedule baseline is not to be affected.)
9.	PM/FM	The project manager (and the team member's functional manager) share responsibility for directing resources.
10.	SP	The sponsor designates the project manager in the project charter.
11.	SP	The sponsor protects the project from a large change like termination. If it becomes clear that the project will not meet organizational objectives the sponsor will authorize termination.
12.	PM/SP	Only the sponsor can make a change to the charter (including a schedule constraint). The project manager must provide evidence that it is unrealistic and work with the sponsor to resolve it.
13.	PM	It is the project manager's role to settle such conflicts (and ensure a network diagram and critical path are established).
14.	PM	The project manager is responsible to control the overall project schedule.
15.	T	A team member has control over their activities as long as they meet time, quality, cost, and scope objectives in the project management plan. The team member must keep the project manager informed of method changes, however. As appropriate, the project manager can integrate method changes into the project and look for unintended impacts.
16.	SP	It is the sponsor's role to provide funding for the project.
17.	SP	Additional work not identified in the risk management process means it was not included in the original project budget (or contingency reserve). The sponsor must be involved in providing additional funds.

149