



Project Management (Part 5) - Planning Time: Determining How Much and When

An Online Continuing Education Course for Engineers

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Project Management (Part 5) - Planning Time: Determining How Much and When

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Module 1

Establishing Whom You Need, How Much and When

In This Module

- ▶ Focusing first on people's abilities
 - ▶ Accurately planning your project's personnel needs
 - ▶ Striking a balance among all your resource commitments
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I remember reading the following declaration by a stressed-out project manager: "We've done so much with so little for so long [that] they now expect us to do everything with nothing!"

The truth is, of course, you can't accomplish anything with nothing; everything has a price. You live in a world of limited resources and not enough time, which means you always have more work to do than time and resources allow. After you decide which tasks to pursue, you need to do everything possible to perform them successfully.

Carefully planning for the personnel you need to perform your project increases your chances of succeeding by enabling you to

- ✓ Ensure the most qualified people available are assigned to each task.
- ✓ Explain more effectively to team members what you're asking them to contribute to the project.
- ✓ Develop more-accurate and more-realistic schedules.
- ✓ Ensure that people are on hand when they're needed.
- ✓ Monitor resource expenditures to identify and address possible overruns or underruns.

Some organizations have procedures that detail and track every resource on every project. Other organizations don't formally plan or track project resources at all. However, even if your organization doesn't require you to plan your resource needs and track your resource use, doing so is invaluable to your project's success.

This module helps you figure out whom you need on your project, when, and for how long. It also discusses how to identify and manage conflicting demands for people's time.

Getting the Information You Need to Match People to Tasks

Your project's success rests on your ability to enlist the help of appropriately qualified people to perform your project's work. You begin your project planning by determining your project's required results and major deliverables. You continue your planning by detailing the

intermediate and final deliverables that your project must generate in a Work Breakdown Structure (WBS). Your next step is to decide which activities you need performed to create the deliverables identified in your project's work packages (the lowest-level components in the WBS) and to determine the skills and knowledge people must have to perform them.

As you find out in the following sections, getting appropriately qualified people to perform your project's activities entails the following two steps:

- ✓ Determining the skills and knowledge that each activity requires
- ✓ Confirming that the people assigned to those activities possess the required skills and knowledge and that they're genuinely interested in working on their assignments



Remember

A *skill* is something you must be able to do to perform an activity successfully. *Knowledge* is information you must have in your head to be able to perform an activity successfully. *Interest* is your personal desire to know about and be involved with the subject matter of an activity and to have a part in successfully producing the result of the activity. Possessing the necessary skills and knowledge means you're capable of doing a task. Being interested in the task increases the chances you'll apply your skills and knowledge to actually accomplish the task successfully.

Deciding what skills and knowledge team members must have

To begin deciding the skills and knowledge that people must have for your project, obtain a complete list of all your project's activities. Specify your project's activities by decomposing all the work packages (the lowest-level WBS components) in your project's WBS into the individual actions required to complete them.



Tip

You may find information to help you complete this task in your project's WBS dictionary; you identify and describe your project's activities and their important characteristics — such as a unique name and identifier code, duration, predecessors, and successors — in this document.

Next, determine each activity's skill and knowledge requirements by reviewing activity descriptions and consulting with subject-matter experts, your human resources department, and people who have worked on similar projects and activities in the past.



Tip

Because you'll ask functional managers and others in the organization to assign staff with the appropriate skills and knowledge to your project, you should ask these people before you prepare your list of required skills and knowledge whether they've developed any skills matrices. If they haven't, ask what schemes (if any) they or the organization currently uses to describe staff's skills and knowledge. Then, if possible, you can use the same or a similar scheme to describe your project's skill and knowledge requirements to make it easier for the managers to identify those people who are appropriately qualified to address your project's requirements.



Remember

For most situations, you need to know two pieces of information about a task to determine the qualifications that a person must have to perform it:

- ✓ The required levels of proficiency in the needed skills and knowledge
- ✓ Whether the assignment will entail working under someone else's guidance when applying the skills or knowledge, working alone to apply the skills or knowledge, or managing others who are applying the skills or knowledge

An example of a scheme that describes these two aspects of a skill or knowledge requirement is (X, Y) . X is the required level of proficiency in the skill or knowledge and has the following values:

- ✓ 1 = requires a basic level of proficiency
- ✓ 2 = requires an intermediate level of proficiency
- ✓ 3 = requires an advanced level of proficiency

Y is the required working relationship when applying the skill or knowledge and has the following values:

- ✓ a = doesn't entail managing others who use the skill or knowledge
- ✓ b = entails managing others who use the skill or knowledge



Tip

In addition to providing a basis for assigning appropriately qualified people to project teams, information about employees' skills and knowledge can also support

- ✓ **Training:** The organization can develop or make available training in areas in which it has shortages.
- ✓ **Career development:** The organization can encourage individuals to develop skills and knowledge that are in short supply to increase their opportunities for assuming greater responsibilities in the organization.
- ✓ **Recruiting:** Recruiters can look to hire people who have the capabilities that will qualify them for specific job needs in the organization.
- ✓ **Proposal writing and new business development:** Proposals can include information about people's skills and knowledge to demonstrate the organization's capability to perform particular types of work.

Representing team members' skills, knowledge, and interests in a Skills Matrix

Whether you're able to influence who's assigned to your project team, people are assigned to your team without your input, or you assume the role of project manager of an existing team, you need to confirm the skills, knowledge, and interest of your team members.

If you have a team that was assembled without considering your opinion on the capabilities needed to perform your project's work, you must find out team members' skills, knowledge, and interests so you can make the most appropriate task assignments. If some or all of your team has been chosen in response to the specific skills and knowledge needs that you discussed with the organization's management, you should document people's skills and knowledge and verify their interests in case you need to assign people to unanticipated tasks that crop up or you have to replace a team member unexpectedly.

A *Skills Matrix* is a table that displays people's proficiency in specified skills and knowledge, as well as their interest in working on assignments that require these skills and knowledge. Figure 1-1 presents an example of a portion of a Skills Matrix. The left-hand column identifies skill and knowledge areas, and the top row lists people's names. At the intersection of the rows and columns, you identify the level of each person's particular skills, knowledge, and interests.

Figure 1-1: Displaying people's skills, knowledge, and interests in a Skills Matrix.

	Bill		Mary		Sue		Ed	
	Proficiency	Interest	Proficiency	Interest	Proficiency	Interest	Proficiency	Interest
Technical Writing	(0,0)	0	(0,0)	0	(3,2)	1	(0,0)	1
Legal Research	(0,0)	1	(0,0)	1	(0,0)	0	(3,3)	0
Graphic Design	(3,3)	1	(0,0)	0	(0,0)	1	(3,3)	1
Questionnaire Design	(1,0)	0	(0,0)	0	(0,0)	0	(0,0)	1

Proficiency rating is expressed as

X = no

Skill or Know

0 = no capabil

1 = basic level o

2 = intermediate capability

3 = advanced level capability

Interest

0 = no interest in this skill or

1 = interested in applying knowledge

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Figure 1-1 shows the Skills Matrix for the course. Bill and Ed can work independently on technical writing and graphic design. Mary can work on technical writing and legal research. Sue can work on technical writing, legal research, and graphic design. However, he'd prefer not to work on technical writing. Ed wants to work on questionnaire design activities, but he currently has no knowledge in this area.

By the way, you may assume that you'd never assign Ed to work on a questionnaire design activity because he has no relevant skills or knowledge. However, if you're trying to find more people who can develop questionnaires, Ed is a prime candidate. Because he wants to work on these types of assignments, he's most likely willing to put in extra effort to acquire the skills needed to do so.

Take the following steps to prepare a Skills Matrix for your team:

1. Discuss with each team member his or her skills, knowledge, and interests related to the activities that your project entails.

Explain that you seek this information so you can assign people to the tasks that they're most interested in and qualified to perform.