

# PROJECT MANAGEMENT

## **JUMPSTART**

Fourth Edition

**THE FIRST STEP TOWARDS  
A CAREER IN PROJECT MANAGEMENT!**

*“This was a required text for my capstone course in my B.S. of Nursing program. I found this book easy to read. The concepts were easy to apply to the project I designed and managed.”*

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**KIM HELDMAN**  
PMP

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# Project Management JumpStart Fourth Edition



Kim Heldman, PMP®



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*To BB, my best friend and forever love*



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Kim Heldman is the author of other project management books, including the best-selling *PMP®: Project Management Professional® Study Guide, 9th Edition (2018)*, and *CompTIA® Project+, Second Edition (2018)*. You can learn more about Kim at her website: <http://KimHeldman.com>.



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# Introduction

This book was written with those of you in mind who are exploring the project management field or perhaps have been assigned to your first project.

Project management encompasses almost all aspects of our lives, not just our working lives. If you think about it, many things you do—from organizing a dinner party to planning a child’s birthday celebration to bringing a new product to market—are projects. The principles you’ll learn in this book will help you with all the project work you’ll find yourself involved with.

Project management crosses all industries. My own personal searches on some of the popular job-hunting websites have shown that organizations are understanding the importance of employing skilled project managers. In these economic times, organizations are less likely to take on risky projects, and they want assurances that if they do take on a new project, it will be successful. Reading this book will give you a solid footing in project management practices. If you apply the principles you’ll learn here, you’ll give your future projects a much better chance at success.

If you find that this topic interests you and project management seems like a career worth pursuing, I strongly recommend you consider becoming certified through the Project Management Institute (PMI®). They are the de facto standard in project management methodologies. You’ll find in your own job searches that many organizations now require a PMP® certification. PMP® stands for Project Management Professional® and is the designation that PMI® bestows on those who qualify and pass the exam.

Reading this book will give you a jump-start on understanding the principles of project management. From here, you can build on this knowledge by taking project management classes, reading other books on project management, and networking with others in your organization or community involved in project management work. This book is based on the project management guidelines recommended by PMI®, and many of the terms, concepts, and processes you’ll read about in this book are based on PMI®’s publication, *Guide to the Project Management Body of Knowledge (PMBOK®), 6th Edition (PMI, 2017)*.



For a more detailed exploration of project management in general and the PMP® certification specifically, pick up a copy of another book I’ve written called *PMP®: Project Management Professional® Study Guide, 9th Edition*, also published by Sybex (2018).

Whether you choose to pursue certification or not, a basic understanding of project management practices is invaluable. During the course of your career, you’ll be involved in several projects. Even if you are not the one managing the project, understanding how project management works, what a project life cycle is, and how to plan and execute a project will enhance your ability to communicate with others on the project team and know what process should be followed to assure a successful outcome.

# Who Should Read This Book

This book was written for those of you fairly new to project management and lays the foundation for an understanding of the basic principles of good project management methodologies. Even if you've had some experience in the project management field, you'll find the example projects, templates, and checklists included in this book immediately applicable to your next project.

The fact that you purchased this book means you're interested in learning new things and furthering your career. Having a solid understanding of project management practices will help you increase your marketability. Your knowledge and practice of the principles outlined in this book will help assure employers that you understand how to bring a project to a successful closure, thereby saving them time and money. If you choose to take this endeavor one step further and become certified, you will increase your chances for advancement and improve your odds for landing the higher-paying project management positions. Potential employers will interpret your pursuit of project management knowledge and certification as assertive and forward-thinking, and they know that this will ultimately translate to success for their organization.

# What This Book Covers

This book walks you through the project life cycle from beginning to end, just like projects are performed in practice. I've included many useful examples, tips, and hints that will help you solve common project management dilemmas. The chapters are designed to follow the project life cycle. Here's a high-level overview of what this book entails:

**Chapters 1–2** These chapters lay the foundation of project management and delve into definitions, project life cycles, and skills that all good project managers need for success.

**Chapters 3–4** These chapters deal with the Initiation and Planning processes of the project life cycle. Here you'll learn why project charters are important and how to set project goals and document the requirements.

**Chapters 5–7** These chapters walk you through breaking down the work of the project into manageable components, acquiring resources, and identifying and planning for risks.

**Chapters 8–9** A large part of the planning work is done. Now you'll pull it all together into a final project plan, including a project schedule, final estimates, and the project budget.

**Chapters 10–11** Now the work of the project begins. Here I'll cover the Executing and Monitoring and Controlling processes, including such tasks as team building, reporting project status, monitoring project performance, and taking corrective action.

**Chapter 12** Finally, the book wraps up with the project closeout process and a discussion of Agile project management.



# Making the Most of This Book

At the beginning of each chapter, you'll find a list of topics that the chapter will cover. You'll find new terms defined to help you quickly get up to speed on project management-specific terminology. In addition, several special elements highlight important information.



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Notes provide extra information and references to related information.



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Tips are insights that help you perform tasks more easily and effectively.



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Warnings let you know about things that you should do—or shouldn't do—as you perform project management tasks.

You'll find several review questions at the end of each chapter to test your knowledge of the material covered. You can find the answers to the review questions in Appendix A. You'll also find a list of terms to know at the end of each chapter that will help you review the key terms introduced in each chapter. These terms are defined in the Glossary toward the end of the book.

I've also provided all the templates and checklists you'll encounter throughout the book in Appendix B. These are ready for you to use or modify according to your needs.



# Chapter 1

# Building the Foundation

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## IN THIS CHAPTER

- ✓ The definition of project management
- ✓ Different organizational structures
- ✓ The project management process groups
- ✓ Project criteria
- ✓ Constraints and their impacts
- ✓ Project management certification





Welcome to the world of project management. Chances are you've already had some experience with project management, whether you've called it that or not. Maybe you've helped organize your company's annual conference or been involved with a new product launch. At some point in your personal or professional life, you've probably used some sort of process to get from the beginning of the project to the end results.

You'll discover through the course of this book that you may already use some of the processes I'll talk about, but you may never have realized they were formalized project management techniques and processes. I'll add some new twists and tricks to those processes that you'll want to try. You'll also learn some new techniques and procedures that will enhance your project management experiences and help you run your next project smoothly and effortlessly. (OK, that might be stretching it a bit, but your project will run more efficiently.)

In this chapter, you'll start building the foundation of good project management practices.

## The Project Management Journey

The first stop on our journey is a brief overview of the *Project Management Institute (PMI®)*. PMI® is the leader and the most widely recognized organization in the world in terms of promoting project management best practices. PMI® strives to maintain and endorse standards and ethics in this field and offers publications, training, seminars, chapters, special-interest groups, and colleges to further the project management discipline. PMI® offers the most recognized certification in the field of project management called the Project Management Professional® (PMP®) certification.

The focus and content of this book revolve around the information contained in *A Guide to the Project Management Body of Knowledge (PMBOK® Guide), Sixth Edition*, published by PMI®. This de facto standard of project management terms, processes, techniques, and more is known and understood by millions of project managers across the globe. I will use the *PMBOK® Guide* terms and process names throughout this book to familiarize you with terminology used by project managers everywhere.

Start your engines—I'm ready to lay the foundation for building and managing your project. In this chapter, I'll start with a definition of a project, and then you'll take a high-level look at some of the processes and plans you'll build throughout the rest of the book and how you'll benefit from using solid project management techniques when managing

your next project. I'll also cover organizational foundations before moving on to the project processes themselves. Here we go.

**project management** The process of applying knowledge, skills, tools, and techniques to describe, organize, and monitor the work of the project to accomplish the goals of the project. (This definition is based on the *PMBOK® Guide*.)

## Is It a Project?

How do you know whether your new work assignment is a project or whether it's going to benefit from *project management* techniques? If you're like most of us, once you get to work and settle in for the day, you check your email and voice mail and touch base with some of the other folks on your team. The boss may drop by and ask for a status report on a problem you've been working on, gently nudging you to get back to it. All of these tasks are everyday work. They don't really have a beginning or end; they're ongoing. Projects are not everyday work. For work to be considered a project, it must meet a certain set of criteria.

Projects set out to produce a unique product, service, or result. They have a limited time-frame and are temporary in nature. This means that projects have a definite beginning and ending. You can determine that a project is complete by comparing its end result or product to the objectives and deliverables stated in the project plan.

Everyday work is ongoing. Production processes are an example of ongoing operations. Maybe you love popping a handful of chocolate drops into your mouth mid-afternoon for a quick treat. Producing those chocolate drops is an example of ongoing operations. The production line knows how many candies to produce, what colors to coat them with, how many go in a package, and so on. Every day, hundreds of thousands of those little drops make their way into bags, onto the store shelves, and eventually into our mouths—yum. But the production of these candies is not a project.

Now let's say that the management team has decided it's time to introduce a new line of candy. You've been tasked with producing the new candy flavor and shape. You assemble a research team to come up with a new candy formula. The marketing team gathers some data, which shows that the new candy has real potential with the consumers. The candy is produced according to plan, monitored for adherence to the original formula and design, and shipped to the stores. Is this a project or ongoing operations?

The answer is, this is a project even though candy making is something the company does every day. The production of chocolate drops is considered an ongoing operation. The new candy, however, is a unique product because the company has never produced this flavor and shape of candy. Remember that projects are originated to bring about a product, service, or result that hasn't existed before. The new candy project was kicked off, carried out, monitored, and then ended when all the requirements were met. Candy production didn't stop there, though. At the end of this project, the production of the candy was turned over to ongoing operations and absorbed into the everyday work of the company. The project ended in this case by being assimilated into the ongoing operations of the company. Table 1.1 recaps the characteristics of projects versus ongoing operations.

**TABLE 1.1** Projects vs. ongoing operations

Projects	Ongoing operations
Definite beginning and end.	No definitive beginning and end.
Temporary in nature.	Ongoing.
Produces a unique product, service, or result.	Produces the same product, service, or result over and over.
Resources are dedicated to the project.	Resources are dedicated to operations.
Ending is determined by specific criteria.	Processes are ongoing.

## Where Are We Going?

When you start out on a journey, it helps to have the destination in mind. You've embarked on a project management discovery journey, so I'd like to start by describing where you'll be when you've finished.

**customer** The end user or recipient of the product, service, or result of the project. Customers may be internal or external to the organization.

The end of the project is the time to reflect on the processes used to complete the activities, to determine whether the *customer* is satisfied with the product the project set out to produce, and to document the lessons learned (among other things) throughout the course of the project. You will be able to use this book to guide you from start to finish through your next small or medium-sized project so that you can easily assess those factors, not only at the end of the project but as you progress through the project as well. (I consider large projects to be along the lines of building rocket ships, constructing major highways, or writing the latest, greatest software program that will automatically do your grocery shopping and monitor your golf swing at the same time.) If you're just starting out in project management, you probably aren't heading up a large-scale project. But rest assured that all those small and medium-sized projects will teach you a great deal about project management and will start you well on the way to bigger and better opportunities as your experience grows.



When you're just starting out, don't discount the experience you'll gain by working on small projects. Large projects are really a lot of smaller projects all lumped into one. The stepping stones to large project work are created by a history of success with small and medium-sized projects.

Included in this and each subsequent chapter you'll find discussions of the processes at hand, examples so that you can apply what you're learning, and templates that you can use or modify to complete your project documentation. Now let's take a high-level look at a completed project.

## A Bird's-Eye View

The first example of a project is this book you're holding. You haven't yet read the entire book (unless, of course, this is your second time through). No doubt you're asking yourself, "Will this book give me the information I'm looking for?" or perhaps, "Will I be able to run my next project more efficiently as a result of reading this book?" Of course, I think the answer to both of these questions is, "Yes!" but you don't know that yet. After you've finished the book, you'll know the answers to these questions and be able to reflect and discover that you did learn some new things and your project management tool bag is much better equipped for your next project. In other words, you've satisfied your curiosity and increased your knowledge of project management.

Projects work the same way. As the project manager, your primary concern throughout the project and particularly at the end of the project is, "Did I meet the customer's requirements to their satisfaction?" If you've followed the appropriate project management processes correctly, you're well on your way to having a successful answer to that question. At the end of the project, you'll document the things you've learned for use in future projects, which will help you improve the process the next time around.

Projects come about as a result of a need, and that need relates to the customer's expectations concerning the end result. But how do we get there? How do we know the customer is going to be satisfied? Table 1.2 is a bird's-eye view checklist that outlines the plans you'll create and the processes you'll practice during the course of a project. Don't worry that you may not understand everything on this list—I'll describe each of these areas in detail in the book. You'll revisit this list in a similar format one more time later in this book in Appendix C, "Sample Project Management Checklists."



You can also download this checklist of project documents from [www.sybex.com/go/projectmanagementjumpstart4](http://www.sybex.com/go/projectmanagementjumpstart4).

**TABLE 1.2** Checklist of project documents

Complete	Process or document name	Notes
<input type="checkbox"/>	Business case	Typically created by the project requestor. Determines whether the project is financially beneficial to the organization. This is usually done as a pre-project step to determine whether the project should be undertaken.

**TABLE 1.2** Checklist of project documents *(continued)*

Complete	Process or document name	Notes
<input type="checkbox"/>	Project charter	Oftentimes created by the project manager with input from the project sponsor and key stakeholders. Describes the project purpose and outcomes.
<input type="checkbox"/>	Stakeholder register	Created by the project manager. Lists the key stakeholder names, their contact information, influence and interests on the project, and other information needed to assist in managing stakeholders.
<input type="checkbox"/>	Assumptions and constraints log	Created by the project manager with stakeholder input. Describes assumptions and project constraints.
<input type="checkbox"/>	Project scope statement	Created by the project manager. Signed by the project sponsor(s) and stakeholders. The project manager works with project team and stakeholders to define and document project deliverables in the scope statement.
<input type="checkbox"/>	Critical success factors	Defines the elements or requirements that must be completed for the project to be considered complete. Can be included with the business case, project charter, and/or the scope statement.
<input type="checkbox"/>	Communications plan	Created by the project manager. Describes the information needs of stakeholders and the project team. Describes how and when the information is distributed.
<input type="checkbox"/>	Work breakdown structure (WBS)	Created by the project manager. Formatted as a deliverable-oriented hierarchy that defines the work of the project.
<input type="checkbox"/>	Roles and responsibility matrix	Created by the project manager. Ties roles and responsibilities of project team members with WBS elements.
<input type="checkbox"/>	Resource plan	Created by the project manager. Describes the physical resources and human resources needed to complete the project.
<input type="checkbox"/>	Procurement plan	Created by the project manager or procurement team. Describes resources or services to be purchased from an outside provider.



Complete	Process or document name	Notes
<input type="checkbox"/>	Risk management plan	Created by the project manager or risk management team. Identifies, describes, and plans for project risks.
<input type="checkbox"/>	Quality management plan	Created by the project manager or quality team. Describes how quality will be assured and measured.
<input type="checkbox"/>	Project schedule	Created by the project manager or project scheduler. Displays task dependencies, task durations, milestones, and resources. Used to determine the critical path.
<input type="checkbox"/>	Project budget	Created by the project manager. Determines targeted costs of the project.
<input type="checkbox"/>	Change management plan	Created by the project manager. Describes how changes will be identified, approved, and managed.
<input type="checkbox"/>	Change control log	Created by the project manager. Lists the changes requested on the project, description, disposition, implementation date, comments and other information.
<input type="checkbox"/>	Implementation checklist	Created by the project manager. Describes topics to be discussed at turnover to internal departments or the customer.
<input type="checkbox"/>	Final status report	Created by the project manager. Describes a high-level overview of the project, including successes and problems, and records the dates when stakeholders accepted the key deliverables for the project.
<input type="checkbox"/>	Lessons learned register	Created by the project manager with input from sponsor, stakeholders, and team members. Provides information to improve performance on future projects or future phases of the current project.

Charters and schedules and budgets, oh my! If you're thinking this looks like a great deal of work, you're correct. But anything worth doing is worth the time and effort to do correctly and thoroughly. And remember that the size of the project will dictate how much effort should go into each of the items on the checklist. You might be happy to know that some of these plans and documents can be combined or scaled back for small projects. Be sure to consider the project specifics and the impact on your career growth if the project isn't successful before doing so.

This list may appear daunting right now, but by the end of this book you'll have a better understanding of the importance of each of these elements and why you need to incorporate them into your next project.

## Know the Structure of Your Organization

It's important for project managers to understand the kind of organization they work in. Each structure has its own pluses and pitfalls that influence your effectiveness as a project manager. Organizations and their cultures are as unique as the projects they take on. You'll look at organizational structures in the next several sections.

One of the keys to determining the type of organization you work in is measuring how much authority senior management is willing to delegate to project managers. The level of authority the project manager enjoys is denoted by the organizational structure and by the interactions of the project manager with various levels of management. For example, a project manager within a functional organization has little to no formal authority. Their title might not be project manager; instead, they might be called a *project leader*, a *project coordinator*, or perhaps a *project expeditor*. And a project manager who primarily works with operations-level managers will likely have less authority than one who works with middle- or strategic-level managers. Let's take a further look at each type of organizational structure.

**functional organizations** A traditional organizational structure that is hierarchical in nature. Employees report to one manager who reports to a higher-level manager.

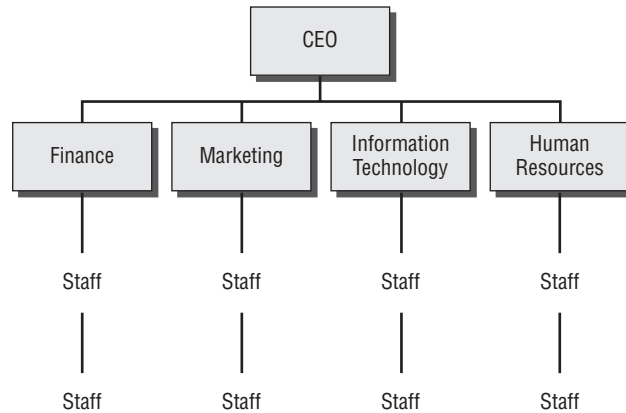
### Functional Organizations

*Functional organizations* group similar work operations together into departments. For example, there's an accounting department, staffed with folks who know how to count the money and keep track of expenditures and such; a human resources department; an information technology department; a marketing department; and so on. The departments themselves are organized around similar work processes, and the employees who work in these departments have similar skill sets, albeit ranging from beginners in the field to seasoned experts.

Chances are you work for a person, known as the boss, who has some level of authority over your work assignments. Chances are your boss works for a boss who works for the big boss. This is how the chain of command is structured in a functional organization. For example, all the marketing employees report to the marketing manager, all the finance employees report to the finance manager, all the information technology employees report to the information technology manager, and so on. All the employees in the company report up through their own departments to bosses who report to the big cheese at the top. Most organizations are structured this way; it's the most common form of organizational structure.

Project managers who work in functional organizations usually have other responsibilities besides the project at hand. When the manager of human resources receives approval to undertake a project implementing an automated leave request system, not only will she have to manage the project, but she'll also continue to manage the duties of her regular position. This makes the project management tasks easier since she's the one who assigns the work to her staff, but her job responsibilities become more complicated since she's

juggling functional duties and project management duties. Here is a typical organizational chart for a functional organization:



If you find yourself working as a contract project manager in this type of organization, be aware that corporate culture may dictate strict adherence to the chain of command. This means you must speak with the functional managers directly and should not go to their bosses for answers unless they instruct you to do so. And rather than taking the initiative and rallying the employees in the department around the project, you'll likely need to get permission from their boss before you speak to them.

Advantages of a functional organization include the following:

**Clear Chain of Command** Project team members have one supervisor, and they clearly understand the lines of authority.

**Cohesive Team** Team members know one another because they work in the same department. Because their skills and talents are known, task assignment is easier.

**Separation of Functions** This structure allows team members to fine-tune specific skills and eventually become experts.

Disadvantages of a functional organization are as follows:

**Project Managers Are Typically Functional Managers Also** This arrangement tends to pull a manager in several directions and can cause projects to suffer from lack of attention. If the project manager is not a functional manager, the project team may not respect their authority, which can lead to poor project performance.

**Layers of Bureaucracy** This structure slows down the project progress because of the time it takes to get approval or make decisions.

**Competition for Resources** When multiple priorities and projects are undertaken, the department can become stretched thin under the load, which can adversely affect all the work of the department. (To be honest, this problem can occur under any organizational structure.)

**Project Managers Have Limited Authority** Project managers in a functional organization usually have to rely heavily on negotiating skills in order to obtain resources from functional managers. They also typically have little or no authority to hold team members accountable.

**project-oriented organizations** Organizations that focus on the project itself, not on the work of the functional department. Project managers have the most authority in this type of structure, and other functions, such as accounting or human resources, may report to the project manager.

## Project-Oriented Organizations

*Project-oriented organizations* are structured just the opposite of functional organizations. If you're a project manager in this type of organization, you probably report directly to a vice president of project managers or perhaps to the CEO.

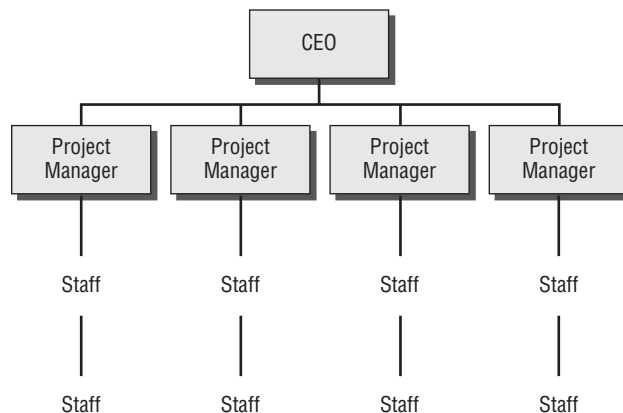
In this type of environment, the project manager has full authority over the project, and supporting functions, such as accounting and human resources, report to the project manager instead of to a functional manager in that area of expertise. Organizational structures like this focus on projects as their top priority. As a result, project managers have the authority to form project teams, assign resources, and focus on the work of the project. All the team members assigned to the project report directly to the project manager, and their sole responsibility involves project-specific activities. At the conclusion of the project, team members are assigned to new projects or to other assignments.

**colocated** When project team members are physically located together at the same site.

Project teams are typically *colocated* in a project-oriented environment. This facilitates communication and decision-making processes because everyone works together and reports to the same project manager. The following graphic is a typical org chart for a project-oriented organization.



Project-oriented structures can exist within a functional organization. Perhaps the company is undertaking a mission-critical project and needs a dedicated team to work on nothing but that project. A project manager is appointed who reports directly to an executive manager, the team is chosen and assigned, and off you go with a project-oriented team structure within the functional organization.



Advantages of a project-oriented organization include the following:

**Project Managers Have Ultimate Authority** Team members have one boss (you and only you) and clearly understand the lines of authority. Teams are typically colocated, which facilitates communication.

**Project Managers Are the Primary Decision-Makers** This makes problem resolution and priority setting clear-cut. The buck stops here.

**The Focus of the Organization Is Project Work** Resources are focused on the projects and the work of the project. Loyalties are formed to the project and to you as the project manager.

Disadvantages of a project-oriented organization are as follows:

**Reassignment of Team Members** When the work of the project is complete, team members need to find new assignments. There may not be another project available to the team members right away.

**Idle Time** Team members with highly specialized skills may be required only at certain times or for specific activities on the project. What they do with their time otherwise is a tough issue to resolve in this type of organization.

**Competition** Project managers compete with each other for the best resources available within the organization when forming their teams and acquiring materials. This could have a negative effect on the external customer who is unfortunate enough to have the project manager who drew all the short straws for their project.

**matrix organizations** An organizational structure where employees report to multiple managers, including one functional manager and at least one project manager.

## Matrix Organizations

*Matrix organizations* are a result of combining the best of the functional and project-oriented organizations while downplaying the disadvantages inherent in both. Many organizations use this type of structure for project work. Like the project-oriented organization, projects are the focus of the work in a matrix structure.



The biggest disadvantage of this type of structure is that project team members are accountable to more than one manager. I don't know about you, but having one boss is difficult enough, let alone two or three. (Sorry, Boss!)

The idea here is that project team members are assigned to one or more projects and thus report to each project manager for all project activities. They may still have duties to fulfill at their old functional job and thus report to their functional manager regarding those duties.

Let me give you an example. Suppose your project is to install a new piece of equipment in the remittance processing area. (They're the folks who take your money and credit your account for making the payment.) This project cuts across the lines of several departments:

remittance processing, information technology, customer service, and accounting. To accomplish this project, team members from each of these functional areas are assigned to the project. Let's say you're the project manager and must make sure all the team members focus on this project to meet the implementation deadline. However, Sara in accounting really doesn't want to work on this project and has a particular loyalty to her functional manager. She spends most of her time on her functional duties, claiming priority issues or emergencies, and never seems to get her project activities completed on time. I think you're getting the picture.

Organizations operating under a matrix structure that place a strong emphasis on project work can eliminate the problem discussed in the preceding paragraph. When the emphasis is on project work, team members are relieved of their old functional duties during the course of the project. Functional managers are responsible for collecting time reports and monitoring the low-level administrative work of their team members. However, project assignments come from the project manager. At review time, the project manager will deliver an evaluation of project team members to their respective functional managers. This becomes input into the employee's annual review. Functional managers are responsible for holding formal reviews and rating their employees.

Project managers working in this environment should be certain to work closely with the functional managers when preparing project plans, setting schedules, and determining the staff members needed for specific activities. If you don't work closely with the functional manager or are lacking in negotiating skills, you may mysteriously find that the resources you need are never available when you need them.

When the functional department managers have good working relationships with the project managers and the company culture is focused more on the work of the project than on departmental work, this structure can work well. A project-focused matrix organization is known as a strong matrix organization. Project managers usually have more authority in a strong matrix structure than the functional department managers, and that makes it easier to settle disputes, assign resources, and focus on the work of the project. The illustration that follows shows a typical org chart for a matrix organization:

