

Chapter 8

Venturing into the Unknown: Dealing with Risk

In This Chapter

- ▶ Coming to terms with risk and risk management
- ▶ Taking a closer look at risk factors
- ▶ Examining risk likelihood and effects
- ▶ Strategizing to stay on top of the risks
- ▶ Drafting a risk-management plan

Your first step in managing a successful project is to develop a plan to produce the desired results on time and within budget. If your project lasts a relatively short time and you're thorough and realistic in your planning, your project will most likely be a success.

However, the larger, more complex, and longer your project is, the more likely you are to encounter some aspects that don't work out as you envisioned. Thus, you have the greatest chance for success if you confront the possibility of such changes head-on *and* if you plan to minimize their undesirable consequences from your project's outset.

This chapter discusses how to consider potential risks when you're deciding whether you'll undertake your project, when you're developing your project plan, and while you're performing your project's work. It shows you how to identify and assess the impact of project risks and explores strategies for minimizing their consequences. Finally, this chapter gives pointers for preparing your own risk-management plan.

Defining Risk and Risk Management

Risk is the possibility that you may not achieve your product, schedule, or resource targets because something unexpected occurs or something

planned doesn't occur. All projects have some degree of risk because predicting the future with certainty is impossible. However, project risk is greater

- ✓ The longer your project lasts
- ✓ The more time you have between preparing your project plan and starting the work
- ✓ The less experience you, your organization, or your team members have with similar projects
- ✓ The newer your project's technology is

A *Guide to the Project Management Body of Knowledge*, 5th Edition (PMBOK 5), asserts that risk can be either negative or positive:

- ✓ *Negative risks*, also referred to as *threats*, potentially have a detrimental effect on one or more of the project objectives, such as causing you to miss a deadline.
- ✓ *Positive risks*, also referred to as *opportunities*, potentially have a beneficial effect on project objectives, such as allowing you to complete a task with fewer personnel than you originally planned.

In other words, any potential occurrence that can cause you either to fall short of or to exceed your established project targets is considered a risk. Although some approaches for analyzing and responding to both types of risks are similar, this chapter presents approaches for identifying, evaluating, and managing negative risks. In this chapter, the term *risk* always refers to a negative risk or threat, unless otherwise noted.



Don't put all your eggs in one basket

I once met a man who was starting a large project that was a top priority for his organization. His project's success depended heavily on one person who would work on the project full time for six months and perform all the technical-development tasks. I asked whether he had considered the consequences of this person's leaving the project before it was finished. He said he didn't have to worry about that risk because he simply wouldn't allow the man to leave.

It occurred to me that his approach for dealing with risk was similar to the one of a woman who canceled her health insurance for a year — because she wasn't planning to get sick! He may have gotten top management to agree that the person would have no other assignments for the duration of his project. However, he still couldn't guarantee that the person wouldn't get sick or decide to leave the organization.

Risk management is the process of identifying possible risks, assessing their potential consequences, and then developing and implementing plans for minimizing any negative effects. Risk management can't eliminate risks, but it offers the best chance for successfully accomplishing your project despite the uncertainties of a changing environment.

So how can you address your project's risks? Take the following steps to determine, evaluate, and manage the risks that may affect your project:

1. Identify risks.

Determine which aspects of your plan or project environment may change.

2. Assess the potential effects of those risks on your project.

Consider what can happen if those aspects don't work out the way you envision.

3. Develop plans for mitigating the effects of the risks.

Decide how you can protect your project from the consequences of risks.

4. Monitor the status of your project's risks throughout performance.

Determine whether existing risks are still present, whether the likelihood of these risks is increasing or decreasing, and whether new risks are arising.

5. Inform key audiences of all risks involved with your project.

Explain the status and potential effect of all project risks — from the initial concept to the project's completion.

The rest of this chapter describes these steps in more detail.

Focusing on Risk Factors and Risks

The first step toward controlling risks is identifying them. However, not all risks pose the same degree of concern to all projects, and using a scatter-gun approach to identify risks that may affect your project leaves a significant chance that you'll overlook some important ones.

This section shows you how to identify potential risks on your project by recognizing the special situations that are most likely to create them.

Recognizing risk factors

A *risk factor* is a situation that may give rise to one or more project risks. A risk factor itself doesn't cause you to miss a product, schedule, or resource

target. However, it increases the chances that something may happen that will cause you to miss one.

For example, the fact that you and your organization haven't undertaken projects similar to the present one is a risk factor. Because you have no prior experience, you may overlook activities you need to perform, or you may underestimate the time and resources you need to perform them. Having no prior experience doesn't guarantee you'll have these problems, but it does increase the chances that you may.



The more risk factors that suggest a particular risk may occur, the higher the likelihood that the risk will occur. For example, ordering from a vendor you haven't worked with before increases the chances that receiving your order will take longer than promised. However, the likelihood of a longer-than-promised wait for delivery is even greater if the item is also a special order, if you want delivery during a busy period for the vendor, and if the vendor has to order several parts from different manufacturers to make the item.



Start to manage risks at the outset of your project and continue to do so throughout its performance. At each point during your project, identify risks by recognizing your project's risk factors. Use your project phases as well as your overall project plan to help you identify risk factors.

All projects progress through the following four life cycle stages, and each stage can present new risk factors for your project (see Chapter 1 for a detailed discussion of these stages):

- ✓ Starting the project
- ✓ Organizing and preparing
- ✓ Carrying out the work
- ✓ Closing the project

Table 8-1 illustrates possible risk factors that may arise in each of these stages.

Table 8-1 Possible Risk Factors That May Arise During Your Project's Evolution

<i>Project Life Cycle Stage</i>	<i>Possible Risk Factors</i>
All	You or your team spends insufficient time on one or more stages.
	Key information isn't in writing.

<i>Project Life Cycle Stage</i>	<i>Possible Risk Factors</i>
Starting the project	You or your team moves to a subsequent stage without completing one or more of the earlier stages.
	Some background information and/or plans aren't in writing.
	No formal benefit-cost analysis has been done.
Organizing and preparing	No formal feasibility study has been done.
	You don't know who the originator of the project idea is.
	People unfamiliar with similar projects prepare your project plan.
	Your plan isn't in writing.
Carrying out the work	Parts of the plan are missing.
	Some or all aspects of the plan aren't approved by all key audiences.
	People on the project team didn't prepare the plan.
	Team members who didn't participate in the development of the project plan don't review it.
	You haven't made an effort to establish team identity and focus.
	You haven't developed any team procedures to resolve conflicts, reach decisions, or maintain communication.
	Needs of your primary clients change.
	You have incomplete or incorrect information regarding schedule performance and resource expenditures.
	Project-progress reporting is inconsistent.
	One or more key project supporters are reassigned.
Closing the project	Team members are replaced.
	Marketplace characteristics or demands change.
	Changes are handled informally, with no consistent analysis of their effect on the overall project.
	Project results aren't formally approved by one or more project drivers.
	Project team members are assigned to new projects before the current project is completed.

Table 8-2 depicts risk factors that different parts of your project plan may suggest.

Table 8-2 **Possible Risk Factors Related to Different Parts of Your Project Plan**

<i>Part of Project Plan</i>	<i>Possible Risk Factors</i>
Project audiences	Your project has a new client.
	You've had prior problems with a client.
	Upper management or other key drivers show only mild interest in your project.
	Your project doesn't have a project champion. (Check out the sidebar on project champions in Chapter 2 for details on this role.)
Project background	Not all project audiences have been identified.
	Your project derived from a spontaneous decision rather than a well-thought-out assessment.
	You don't have conclusive proof that your project will eliminate the problem it addresses.
Project scope	Your project can't start until one or more other planned activities are completed.
	Your project is unusually large.
	Your project requires a variety of skills and knowledge.
Project strategy	Your project involves different organizational units.
	You have no declared strategy.
	Your project involves a new, untested technology or approach.
Project objectives and deliverables	One or more objectives or deliverables are missing.
	Some performance measures are unclear or missing.
	Some performance measures are difficult to quantify.
	One or more performance targets or specifications are missing.
Constraints	One or more objectives or deliverables haven't been approved by all drivers.
	Your constraints aren't written down.
	Your constraints are vague.
Note: In general, all constraints are potential risk factors.	

<i>Part of Project Plan</i>	<i>Possible Risk Factors</i>
Assumptions	Assumptions aren't written down.
	Your assumptions are vague.
	Note: In general, all risk factors in assumptions are risk factors for the overall project.
Work packages and activities	Work packages or activities are insufficiently detailed.
	Not all team members participated in preparing descriptions of their assigned work packages and activities.
	Not all supporters were involved in developing their roles and responsibilities.
Roles and responsibilities	You have an overdependence on one or more people.
	No primary responsibility is assigned for one or more activities.
	Two or more people have primary responsibility for the same activity.
	No one person has overall responsibility for the project.
Schedule (activity-duration estimates)	Time estimates are backed into from an established end date.
	You have no historical database of activity durations.
	Your project involves new procedures or technologies for some activities.
Schedule (activity interdependencies)	Activities are performed by team members you haven't worked with before.
	Interdependencies aren't specifically considered during schedule development.
	Partially related activities are scheduled simultaneously to save time.
Personnel	Your project plan uses no formal analytical approach to assess the effect of interdependencies on the schedule.
	Your project plan has no estimates for actual work effort required to perform activities.
	Your project plan doesn't formally consider availability or efficiency.
	Your project plan has no detailed work schedules for people working simultaneously on two or more tasks.
Other resources	Your team includes one or more new or inexperienced team members.
	You have no plans to identify the type, amount, or timing of required nonpersonnel resources.
Funds	You have no project budget.

Identifying risks

After you recognize your project's risk factors, the next step in your risk assessment is to identify the specific risks that may result from each of your risk factors. With this information in hand, you can determine the particular effects each risk may have on your project and decide how you want to manage that risk.

Describe how each risk factor may cause you to miss your product, schedule, or resource targets. Suppose, for example, that you plan to use a new technology in your project. Using a new technology is a risk factor (as you see in Table 8-2). Possible product, schedule, and resource risks that may arise from this risk factor include the following:

- ✓ **Product risk:** The technology may not produce the desired results.
- ✓ **Schedule risk:** Tasks using the new technology may take longer than you anticipate.
- ✓ **Resource risk:** Existing facilities and equipment may not be adequate to support the use of the new technology.



To identify specific potential risks for each risk factor, do the following:

- ✓ **Review past records of problems encountered in similar situations.** If a risk factor actually resulted in an unexpected occurrence in the past, you definitely want to be prepared for it this time.
- ✓ **Brainstorm with experts and other people who have related experiences.** The more sources of expert opinion you consult, the less likely you are to overlook something important.
- ✓ **Be specific.** The more specifically you describe a risk, the better you can assess its potential effect. Here's an example of a nonspecific risk compared to a specific one:
 - **Nonspecific:** Activities may be delayed.
 - **Specific:** Delivery may take three weeks rather than two.



Try to eliminate potential risk factors as soon as possible. For example, suppose a key audience hasn't approved your project's objectives. Instead of just noting the risk that you may not correctly address this audience's needs, try to get the audience's approval!

Ass
and



Assessing Risks: Probability and Consequences

The expected consequences of a risk depend on the probability that the risk will become a reality and the resulting effect if it does. Consider the expected consequences of different risks to decide which risks you want to actively manage and which risks you'll leave alone. This section discusses how to determine the probability that a particular risk will occur on your project and how to estimate the extent of that risk's consequences.

Gauging the likelihood of a risk

If a meteorologist says she expects 20 inches of snow, that alone isn't sufficient reason to go out and buy a \$1,000 snow thrower. You also want to know the likelihood that it will actually snow. If the meteorologist is sure that, if it snows, the total accumulation will be at least 20 inches but the chances of it snowing at all are only one in 1,000, you may decide spending \$1,000 to be prepared for such an unlikely situation isn't worth it.



The first step in deciding whether to deal proactively with a risk is assessing the likelihood that it will occur. Use one of the following schemes to describe the chances that a risk will occur:

- ✓ **Probability of occurrence:** The *probability* of a risk occurring is a measure of the expectation that it will occur. Probability is a number between 0 and 1, with 0.0 signifying that the risk will never occur, and 1.0 signifying that it will always occur. (You may also express probability as a percentage, with 100 percent meaning the situation will always occur.)
- ✓ **Category ranking:** Classify risks into categories that represent their likelihood. You may use *high*, *medium*, and *low*, or *always*, *often*, *sometimes*, *rarely*, and *never*.
- ✓ **Ordinal ranking:** Order the risks so the first is the most likely to occur, the second is the next most likely, and so on.
- ✓ **Relative likelihood of occurrence:** If you have two possible risks, you can express how much more likely one is to occur than the other. For example, you can declare that the first risk is *twice as likely* to occur as the second.

If you have objective data on the number of times a risk has occurred in similar situations in the past, use the first scheme in the preceding list to determine the likelihood that the risk will occur again in the future. If you don't

have objective data available, use one of the other three schemes that are based on personal opinion to describe the likelihood particular risks will occur.

The following sections explain how to use each of the preceding approaches to describe the likelihood of a risk occurring.

Relying on objective info

You can estimate the probability of a risk occurring by considering the number of times the risk actually occurred on similar projects. Suppose, for example, that you designed 20 computer-generated reports over the past year for new clients. Eight times, when you submitted your design for final approval, new clients wanted at least one change. If you're planning to design a computer-generated report for another new client, you may conclude the chances are 40 percent that you'll have to make a change in the design you submit (8 divided by 20, then multiplied by 100).



When using objective information, such as past project reports, to determine the likelihood of different risks,

- ✓ Consider previous experience with similar projects.
- ✓ Consider as many similar situations as possible.
- ✓ Keep in mind that the more similar situations you consider, the more confidence you can have in your conclusions.

Counting on personal opinions

In the absence of objective data, solicit the opinions of experts and people who have worked on similar projects in the past. You can estimate the likelihood of a particular risk by soliciting the opinions of ten people who have worked on projects similar to yours. For example, ask them to rate the likelihood of a specific risk as *high*, *medium*, or *low*. Suppose six people choose *high*, two choose *medium*, and two choose *low*. You may then develop your estimate of the likelihood by assigning values of 3 to high, 2 to medium, and 1 to low and determining the weighted average of the responses as follows:

$$[(6 \times 3) + (2 \times 2) + (2 \times 1)] \div 10 = (18 + 4 + 2) \div 10 = 2.4$$

This formula suggests the risk has medium to high likelihood of occurring (because 2.4 is between 2 and 3).



To increase the accuracy of the likelihood estimates you make based on personal opinions, try the following:



- ✓ **Define the category name as clearly as possible.** You may suggest that *low* means the likelihood of the risk is between 0 and 33 percent, *medium* means 33 to 66 percent, and *high* means 66 to 100 percent.
- ✓ **Consider the opinions of as many people as possible.** The more data points you have, the more confident you can be in the estimate.
- ✓ **Be sure the projects your respondents have worked on are truly similar to yours.** Otherwise, you have no reason to assume you can use their experience to predict what'll happen on your project.
- ✓ **Don't allow people to discuss their estimates with each other before they share them with you.** You're looking for individual opinions, not a group consensus.
- ✓ **After they've submitted their initial estimates to you, consider having the people discuss their reasons for their estimates with one another and then asking them whether they want to revise their estimates.** Some people may choose to modify their original estimates if they realize they failed to take into account certain important considerations.



Precision is different from accuracy. *Precision* refers to the detail of a number. *Accuracy* refers to how correct the number is. You may estimate the likelihood of a particular risk to be 67.23 percent. However, even though you express the risk precisely to two decimal places, your guess has little chance of being accurate if you have no prior experience with similar projects. Unfortunately, people often assume that more precise numbers are also more accurate. You can help avoid misinterpretations when you share your assessments of likelihood by using round numbers, categories, or relative rankings.

Estimating the extent of the consequences

Not long ago, I was waiting to see my doctor when the nurse came out and told me the doctor had to attend to an emergency and would be slightly delayed. Imagine my shock when, after waiting three hours for the doctor, I learned that he'd actually gone to a hospital an hour away and was currently in the middle of an emergency operation! If I'd known the doctor was going to be gone for several hours, I would've rescheduled my appointment. Instead, because I didn't know how long the delay would be, I wasted three hours. Unless I wanted to wait the rest of the afternoon, I'd have to make a new appointment anyway.

In this simple example, going for my annual checkup is my project, and beginning my checkup at the scheduled time is one of my project's targets. The doctor's being called away on an emergency shortly before my scheduled appointment is a risk factor; it increases the chances that my checkup won't start at the scheduled time. My estimate of the magnitude of the consequences (how long I expect the start of my appointment to be delayed)

affects what I choose to do (wait for the doctor to return or reschedule my appointment for another time).

After you identify the likelihood that a particular risk will affect your project, be sure to determine the magnitude of the consequences or effects that may result. That magnitude directly influences how you choose to deal with the risk. Determine the specific effect that each risk may have on your project's product, schedule, and resource performance. When evaluating these effects, consider the following:

✓ **The effect of a risk on the total project rather than on just part of it:**

Taking one week longer than you planned to complete an activity may cause you to miss intermediate milestones (and cause the personnel waiting for the results of that activity to sit idle). However, the effect on the project is even greater if the delayed activity is on your project's critical path (see Chapter 5), which means the weeklong delay on that one activity also causes a weeklong delay for your entire project.

✓ **The combined effect of related risks:** The likelihood that your schedule will slip is greater if three activities on the same critical path have a significant risk of delay rather than just one.



Be sure to describe risks and their associated consequences as specifically as possible. For example, suppose a key piece of equipment you ordered for your project may arrive later than expected. You can describe that risk as *the delivery may be late*, or as *the delivery may be delayed by two weeks*. Just stating that the delivery may be late doesn't give you enough information to assess the likely effect of that delay on the overall project. It also makes estimating the probability of that risk's occurrence more difficult. Are you talking about a delay of one day? One month? Stating that the delivery may be delayed by two weeks allows you to determine more precisely the likely effect the delay will have on the overall schedule and resources. It also allows you to decide how much you're willing to spend to avoid that delay.

You can use a variety of formal techniques to support your risk estimation and assessment, including the following:

✓ **Decision trees:** These diagrams illustrate different situations that may occur as your project unfolds, the likelihood of each situation's occurrence, and the consequences of that occurrence to your project.

Figure 8-1 illustrates a simple decision tree to help determine from which of two vendors you buy a piece of equipment. Both vendors have proposed a price of \$50,000 if the equipment is delivered on the agreed-on date. Both vendors have also proposed they receive an incentive for delivering early and absorb a penalty for delivering late, but the amounts of the incentives and penalties differ. The decision tree depicts the probabilities that each vendor will deliver the equipment early, on time, and late, respectively, and the resulting price you pay in each case.

Figure 8-
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Figure 8-1:
Illustrating a
simple deci-
sion tree.

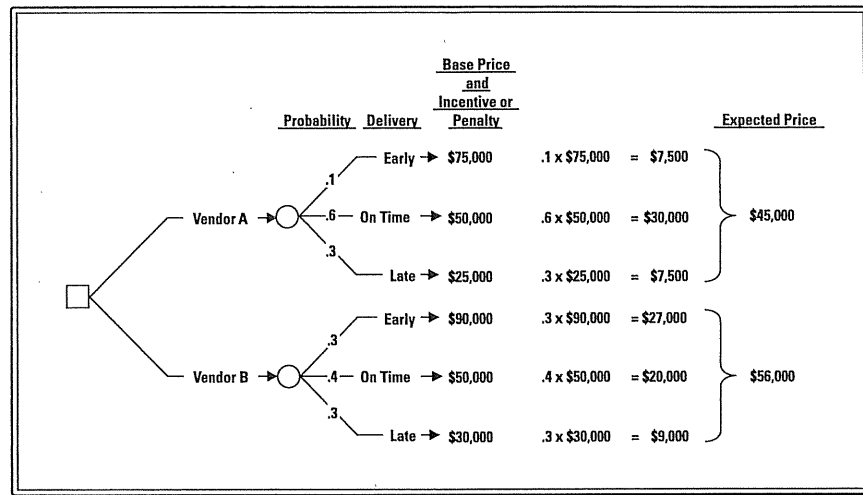


Illustration by Wiley, Composition Services Graphics

Multiplying the base price plus the performance incentive for early delivery by the probability of early delivery yields the expected value of the price you pay if delivery is early. You can calculate the total expected prices for Vendors A and B by totaling the expected prices if each is early, on time, and late, respectively.

This analysis suggests that you can expect to pay Vendor A \$45,000 and have a 70 percent chance he'll deliver on time or early. You can expect to pay Vendor B \$56,000 and have a 70 percent chance he'll deliver on time or early. So you can see that Vendor A is the better choice!

- ✓ **Risk-assessment questionnaires:** These formal data-collection instruments elicit expert opinion about the likelihood of different situations occurring and their associated effects.
- ✓ **Automated impact assessments:** These computerized spreadsheets consider — in combination — the likelihood that different situations will occur and the consequences if they do.

Getting Everything under Control: Managing Risk

Recognizing risks that pose a threat to your project is the first step toward controlling them. But you can't stop there. You also have to develop specific plans for reducing their potential negative effects on your project. This section helps you select the risks you'll proactively manage, develop a plan for addressing them, and share your plan with your project's audiences.

Choosing the risks you want to manage

All identified risks affect your project in some way *if they occur* (after all, that's the definition of a risk). However, you may determine that anticipating and minimizing the negative consequences of some risks if they occur takes more time and effort than just dealing with the situations when they arise.

So your first step in developing a risk-management strategy is choosing the risks that you want to address proactively and which ones you'll just accept. When making this decision, do the following:

✓ **Consider the likelihood of a risk and its potential effect on your project.**

If the potential effect of a risk is great and if the chances it will occur are high, you probably want to develop plans to manage that risk. If both the effect and the likelihood are low, you may decide not to worry about it.

When the potential effect is high but the likelihood is low or vice versa, you must consider the situation more carefully. In these more complex situations, you can use a more formal approach for considering the combined effect of likelihood of occurrence and potential consequence by defining the *expected value of risk*, as follows:

Expected value of risk = (Quantitative measure of the effect if it occurs) × (Probability it will occur)

For example, suppose you need to buy certain materials for a device you're planning to build. When you place your order, you think you have an 80 percent chance of receiving the materials by the date promised. However, this means you have a 20 percent chance that something will go wrong and that you'll have to pay a premium to get the materials from another vendor by the date you need them. You estimate that the materials normally cost \$1,000 and that you'll have to pay an additional \$500 to get them from another vendor at the last minute. Determine the expected value of this risk as follows:

Expected value of risk = Additional cost incurred if you use another vendor at the last minute × Probability that you'll have to use this vendor

Expected value of risk = \$500 × 0.2 = \$100

You may conclude that, all things being equal, spending more than \$100 to reduce the chances of this risk isn't a wise financial decision.

✓ **Decide whether a potential consequence is so unacceptable that you're not willing to take the chance even if it's very unlikely to occur.**

Suppose your company wants to build a new plant in an area that has been hit hard by hurricanes. The estimated cost of the new plant is \$50 million, and the likelihood that a hurricane will totally destroy the building is 0.1 percent. The expected value of this risk is \$50,000 (\$50 million × 0.001), which the company can easily absorb. However, if a hurricane



actually destroys the building, the associated \$50 million loss would put the company out of business. So the company may feel that even a 0.1 percent chance of its new building being destroyed by a hurricane is unacceptable.

If you choose to build the plant, be sure you develop a strategy to manage the risk of the plant being totally destroyed (see the next section). You may want to reconsider whether you undertake the project at all.



Developing a risk-management strategy

Choose one or more of the following approaches for dealing with the risks you decide to manage:

- ✓ **Avoidance:** Act to eliminate the risk factor that gave rise to the risk. An example is deciding not to use a new, untested procedure that you're concerned may not produce the desired project results.
- ✓ **Transfer:** Pay someone else to assume some or all of the effect of the risk. Suppose you choose to proceed with your plans to build a new \$50 million facility (see the example in the preceding section). You can buy disaster insurance on the facility so the company doesn't have to assume the full burden of a total loss if a hurricane destroys the facility.
- ✓ **Mitigation:** Either reduce the likelihood that a risk occurs or minimize the negative consequences if it does occur. The following are examples of risk mitigation:
 - **Minimize the chances that the risk will occur.** Take actions to reduce the chances that an undesirable situation will come to pass. For example, say you have a person on your project who's new to your organization. Consequently, you feel the person may take longer to do her assigned task than you planned. To reduce the chances that the person will require more time, explain the task and the desired results very clearly to her before she begins to work on it, develop frequent milestones and monitor her performance often so that you can deal with any problems as soon as they occur, and have her attend training to refresh the skills and knowledge she needs to perform the assignment.
 - **Develop contingencies to minimize the negative consequences if an undesirable situation does come to pass.** Suppose you plan to have your organization's publication department reproduce 100 copies of the manual for your training program. If you're concerned that the department may have higher-priority projects at the same time, locate an external vendor that can reproduce the manuals if the need arises. Finding the vendor beforehand can reduce any time delay resulting from the need to switch to another resource.



Keep in mind that if these approaches are to work, you must choose your strategies and plan their implementation as early as possible in your project.

Although the following approaches may sometimes seem appealing as you consider all the risks involved in a particular project, they don't work, so don't use them:

- ✓ **The ostrich approach:** Ignoring all risks or pretending they don't exist
- ✓ **The prayer approach:** Looking to a higher being to solve all your problems or to make them disappear
- ✓ **The denial approach:** Recognizing that certain situations may cause problems for your project but refusing to accept that these situations may occur



Though proactively managing your project's risks may require a bit of work upfront, doing so always pays dividends down the line.

Communicating about risks

People often share information about project risks ineffectually or not at all. As a result, their projects suffer unnecessary problems and setbacks that proper communication may have avoided.

You may be reluctant to deal with risk because the concept is hard to grasp. If your project's a one-time deal, what difference does it make that, in the past, a particular risk has occurred 40 times out of 100? You may also feel that focusing on risks suggests you're looking for excuses for failure rather than ways to succeed.



Communicate about project risks early and often. In particular, share information with drivers and supporters at the following points in your project (see Chapter 1 for more about these project life cycle stages):

- ✓ **Starting the project:** To support the process of deciding whether to undertake the project
- ✓ **Organizing and preparing:** To guide the development of all aspects of your project plan
- ✓ **Carrying out the work:**
 - To allow team members to discuss potential risks and to encourage them to recognize and address problems as soon as those problems occur
 - To update the likelihood that identified risks will occur, to reinforce how people can minimize the negative effects of project risks, and to guide the assessment of requests to change parts of the current approved project plan





You can improve your risk-related communications with your project's drivers and supporters by

- ✓ Explaining in detail what the risk is, how it may affect your project, and how you estimated the likelihood of its occurrence
- ✓ Telling people what the current chances are that certain risks will occur, how you're minimizing the chances of problems, and how they can reduce the chances of negative consequences
- ✓ Encouraging people to think and talk about risks, always with an eye toward minimizing the negative effects of those risks
- ✓ Documenting in writing all the information about the risks

You can discuss this information at regularly scheduled team meetings, in regularly scheduled progress reports and upper-management reviews, and in special meetings to address issues that arise. (See Chapter 13 for more on sharing project information.)

Preparing a Risk-Management Plan

A *risk-management plan* lays out strategies to minimize the negative effects that uncertain occurrences can have on your project. Develop your risk-management plan in the organizing and preparing stage of your project, refine it at the beginning of the carrying out the work stage, and continually update it during the remainder of the carrying out the work stage (see Chapter 1 for more on these stages). Include the following in your risk-management plan:

- ✓ Risk factors
- ✓ Associated risks
- ✓ Your assessment of the likelihood of occurrence and the consequences for each risk
- ✓ Your plan for managing selected risks
- ✓ Your plan for keeping people informed about those risks throughout your project

Table 8-3 illustrates a portion of a risk-management plan.

Table 8-3 A Portion of a Risk-Management Plan

<i>Plan Element</i>	<i>Description</i>
Risk factor	You haven't worked with this client before.
Risks	Product: Chance for miscommunication leads to incorrect or incomplete understanding of the client's needs. Schedule: Incomplete understanding of the client's business operation leads to an underestimate of your time to survey the client's current operations. Resources: Inaccurate understanding of the client's technical knowledge leads to assigning tasks to the client that he can't perform; you need additional staff to perform these tasks.
Analysis	Chances of misunderstanding the client's needs = high. Chances of underestimating the time to survey operations = low. Chances of misunderstanding the client's technical knowledge = low.
Strategy	Deal only with the risk of misunderstanding the client's needs. Reduce the chances of this risk by doing the following: 1. Review past correspondence or written problem reports to identify the client's needs. 2. Have at least two team members present in every meeting with the client. 3. Speak with different staff in the client's organization. 4. Put all communications in writing. 5. Share progress assessments with the client every two weeks throughout the project.

Relating This Chapter to the PMP Exam and PMBOK 5

Table 8-4 notes topics in this chapter that may be addressed on the Project Management Professional (PMP) certification exam and that are also included in *A Guide to the Project Management Body of Knowledge*, 5th Edition (PMBOK 5).