Microsoft

PMP Rapid Review

Sean Whitaker

Rapid Review

Assess your readiness for the updated PMP Exam—and quickly identify where you need to focus and practice. This practical, streamlined guide walks you through each exam task, providing "need to know" checklists, review questions, tips, and links to further study—all designed to help bolster your preparation.

Reinforce your exam prep with a *Rapid Review* of these objectives:

- Initiating the project
- Planning the project
- Executing the project
- Monitoring and controlling the project
- Closing the project

This book is an ideal complement to the in-depth training of the Microsoft Press *Training Kit* and other exam-prep resources for the PMP Exam aligned with the *Guide to the Project Management Body of Knowledge (PMBOK Guide), Fifth Edition.*

PMP Exam

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Contents at a glance

Contents

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Introduction

This Rapid Review is designed to assist you with studying for the Project Management Professional (PMP®) exam. The Rapid Review series is designed for exam candidates who already have a good grasp of the exam objectives through a combination of experience, skills, and study; and can use a concise review guide to help them assess their readiness for the exam.

The PMP® exam is aimed at a project management professional who has the following:

- A secondary degree (high school diploma, associate's degree, or the global equivalent) with at least 5 years of project management experience, with 7,500 hours of leading and directing projects and 35 hours of project management education.

  OR

- A 4-year degree (bachelor's degree or the global equivalent) and at least 3 years of project management experience, with 4,500 hours leading and directing projects and 35 hours of project management education.

Successful candidates who take this exam should have the knowledge and skills required to manage projects using processes, tools, and techniques that are generally considered to encompass "best practices" on a wide range of projects. It is important to note that real-world experience with managing projects is required prior to earning the PMP® certification, and that having practical knowledge is a key component to achieving a passing score.

This book reviews every concept described in the following performance domains:

- Initiating the project
- Planning the project
- Executing the project
- Monitoring and controlling the project
- Closing the project

This is a Rapid Review, not a comprehensive guide such as the PMP® Training Kit. The book covers every exam task on the PMP® exam, but does not necessarily cover every exam question. The Project Management Institute (PMI) regularly adds new questions to the exam, making it impossible for this (or any) book to provide every answer. Instead, this book is designed to supplement your existing independent study and real-world experience.

If you encounter a topic in this book that you do not feel completely comfortable with, you can visit the links described in the text. You can also research the topic further by using other websites, as well as consulting support forums. If you review a topic and find that you don't understand it, you should consider consulting the PMP® Training Kit from Microsoft Press. You can also purchase practice exams, or

use the one available with the Training Kit, to further determine whether you need further study on particular topics.

NOTE **The Rapid Review is designed to assess your readiness for the PMP® exam. It is not designed as a comprehensive exam preparation guide. If you need that level of training for any or all of the exam objectives covered in this book, we suggest the PMP® Training Kit (ISBN: 9780735657809). The Training Kit provides comprehensive coverage of each PMP® exam task, along with exercises, review questions, and practice tests.**

Project Management Institute Professional Certification program

The Project Management Institute (PMI) professional certifications cover the technical skills and knowledge you need to succeed as a project manager at different stages of your career and in a wide variety of industries. The PMP® exam is an internationally recognized validation of project management skills and knowledge and is used by organizations and professionals around the globe. The PMP® credential is ISO 17024 accredited (Personnel Certification Accreditation), so it undergoes regular reviews and updates to the exam tasks. PMP® exam tasks reflect the subject areas in an edition of an exam, and result from subject matter expert workshops and industry-wide survey results regarding the skills and knowledge required of a project management professional with a number of years of experience.

MORE INFO **For a full list of Project Management Institute certifications, go to *http://www.pmi.org/Certification.aspx*.**

Acknowledgments

Writing a book such as this requires the input of more than just me as the author. What you see before you is the end product of a dedicated team of professionals, without whom this book simply would not have been written. I'm extremely grateful for the help and support I received from multiple individuals at O'Reilly and Microsoft Press.

First of all, thanks to Kenyon Brown for allowing me to write this book. During the writing process, I also worked closely with Kara Ebrahim and Nancy Sixsmith, both of whom contributed in significant ways to making this a great book. Dan Tuuri was the technical reviewer, and he applied his expertise to the content. Each of these people contributed significantly to this book, and I look forward to working with them all in the future.

Support & feedback

The following sections provide information on errata, book support, feedback, and contact information.

Errata

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Preparing for the exam

Certification exams are a great way to build your resume and let the world know about your level of expertise. Certification exams validate your on-the-job experience and product knowledge. Although there is no substitute for this experience, preparation through study and hands-on practice can help you prepare for the exam.

We recommend that you augment your exam preparation plan by using a combination of available study materials and courses. For example, you might use the Rapid Review and another training kit for your "at home" preparation, and take a PMP® professional certification course for the classroom experience. Choose the combination that you think works best for you.

CHAPTER 1

Initiating the project

The Initiating the Project performance domain covers approximately 13 percent of the Project Management Professional (PMP®) exam. It covers the processes involved in selecting, justifying, and approving a project; and creating the project charter. It also covers the identification and analysis of project stakeholders. The work performed during project initiation is used as a foundational input into the rest of the project management domains, so it is essential that it is carried out appropriately.

This chapter covers the following tasks:

- Task 1.1: Perform project assessment based on available information and meetings with the sponsor, customer, and other subject matter experts, in order to evaluate the feasibility of new products or services within the given assumptions and/or constraints.
- Task 1.2: Define the high-level scope of the project based on the business and compliance requirements, in order to meet the customer's project expectations.
- Task 1.3: Perform key stakeholder analysis using brainstorming, interviewing, and other data-gathering techniques, in order to ensure expectation alignment and gain support for the project.
- Task 1.4: Identify and document high-level risks, assumptions, and constraints based on current environment, historical data, and/or expert judgment, in order to identify project limitations and propose an implementation approach.
- Task 1.5: Develop the project charter by further gathering and analyzing stakeholder requirements, in order to document project scope, milestones, and deliverables.
- Task 1.6: Obtain approval for the project charter from the sponsor and customer (if required), in order to formalize the authority assigned to the project manager and gain commitment and acceptance for the project.

Task 1.1: Perform project assessment based upon available information and meetings with the sponsor, customer, and other subject matter experts, in order to evaluate the feasibility of new products or services within the given assumptions and/or constraints.

The first step in any project involves the tasks related to assessing the project feasibility and deciding whether the project will proceed. It is important during this process to assess the needs and requirements of the project sponsor, customer, and other significant stakeholders to determine whether the project is feasible with the knowledge and information available at that time.

MORE INFO **You can find out more about this objective by reading the Develop Project Charter process in the PMBOK® Guide, 5th edition or Chapter 2 of the PMP® Training Kit.**

Exam need to know...

- Project selection
  For example: How are potential projects selected from all possible projects?
- Business case development
  For example: What is the business need or justification for the project?
- Project selection criteria
  For example: Does the project meet the required strategic, financial, and non-financial criteria?
- Project sponsor
  For example: What is the primary role of the project sponsor?
- Customer
  For example: What is the primary role of the customer?

Project selection

Project selection is the selection of projects via a defined process to select only those projects that meet the organization's strategic goals and any defined financial and non-financial criteria. Assessing all potential projects against these filters ensures that there is a greater chance of project success. The project selection process is the first task completed in the project lifecycle. The key purpose of a defined project selection process is to be able to assess all potential projects against a predetermined set of criteria; then after assessing each project, end up with an approved portfolio of projects, each of which might be given a score or priority assessment to determine the order in which the projects are completed. Figure 1-1 shows the process that a project should go through to make it into the portfolio of approved projects.

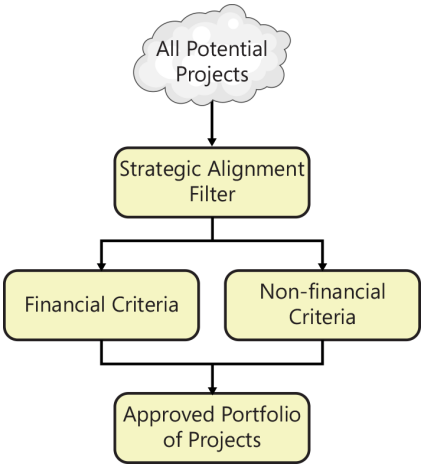

FIGURE 1-1 A diagram showing the process of assessing all potential projects against strategic, financial, and non-financial criteria

NOTE **Each organization has its unique documented way of assessing a project's viability that reflects the things it considers most important. There are many different ways of assessing whether a project should make it through a selection process, but the most important aspect is that it is a documented process so that all projects are treated equally.**

True or false? All projects should be justified and selected on the basis of a predefined selection process.

Answer: *True*. All projects that an organization undertakes should have been through a defined process that assesses the strategic importance and alignment, and financial and non-financial criteria before being approved.

EXAM TIP **In the exam, you should assume that all projects must go through an initial process that assesses them against predetermined criteria before they are authorized. You might be asked a question that indicates that a project is proceeding on the basis of its being a political or personal favorite. In that case, you should insist that it be subject to any documented organizational process assets relating to project selection.**

MORE INFO **You can find out more about the project selection process in Chapter 2 of the PMP® Training Kit book and Chapter 4 of the PMBOK® Guide, 5th edition.**

Business case development

As part of the project-assessment and project-selection tasks, you should document the assessment process; assessment of financial and non-financial matters; and input from key stakeholders such as the sponsor, customer, and other subject matter

experts (SMEs) in a business case. A business case can be a simple summary of relevant matters for small projects or an exhaustive document covering known risks, constraints, assumptions, and strategic financial and non-financial criteria for larger, more complex projects.

The development of a business case can be an initial phase of any project with an approval milestone required for proceeding to further planning.

True or false? The preparation of a business case authorizes a project to proceed.

Answer: *False.* The preparation of the business case does not authorize a project to proceed; it is authorized by the project charter. The information contained within the business case is considered by the appropriate stakeholders and then a decision is made.

The preparation of a business case is one of the first steps of deciding whether a project should go ahead. Projects are declined or given a lower priority based on the information contained in the business case, so the preparation of a business case is not a guarantee that the project will proceed.

NOTE **A business case can contain a wide range of relevant and pertinent information reflecting what an individual organization requires to assess the viability of a project. The most typical information contained in a business case is the business need, issue, or opportunity; and a description of the financial benefits of completing the project. However, it is up to the organization to decide what information is contained within the business case.**

EXAM TIP **In the exam, you should assume that all projects that have been authorized have had a business case developed and approved. If a question presents a scenario that indicates that your project has been formally approved, it already has a business case completed in some form.**

MORE INFO **Chapter 2 of the PMP® Training Kit provides more information on project business case development.**

Project selection criteria

As part of performing project assessment and documenting the business need, financial and non-financial matters in a business case, you should have defined project selection criteria by which to measure whether a project should proceed. Project selection criteria are generally sorted into strategic, financial, and non-financial criteria.

Strategic criteria determine whether the proposed project will assist an organization in achieving its strategic goals. Any project that does not assist the organization in achieving strategic goals should not be selected.

Financial criteria for project selection include an analysis of whether the project will provide sufficient financial returns to enable it to be authorized. Typical measures of financial return include the following:

- **Present value (PV)** Calculates the value in today's dollars of future in coming cash flows generated by a project when a discount rate is applied. The formula for calculating a particular PV is

$$PV = \frac{C}{(1 + r)^n}$$

  where C equals the future cash flow, r equals the discount rate, and n equals the time period.
- **Net present value (NPV)** Takes the total PV calculation for a given time period and subtracts it from the initial investment in the project to determine a net present value. The formula for calculating NPV is

  NPV = Co + PV1 + PV2 + PV3 etc.

  where Co is the initial outlay represented as negative number; and PV1, PV2, PV3, and so on represent the PV calculations for the defined time period.
- **Return on investment (ROI)** Determines what the percentage financial return is on any investment in the project.
- **Internal rate of return (IRR)** Defines the expected percentage return on any project investment. Most organizations have a defined expectation of what this figure is and do not approve any projects that do not meet this requirement.
- **Payback period criteria** Determines how quickly an initial investment in the project is repaid.
- **Cost benefit analysis** Measures the costs of a project against the expected and forecast benefits.

Non-financial criteria for project selection include increased market share, environmental management, health and safety, and not-for-profit motivation.

The only projects that can bypass strategic, financial, or non-financial criteria are compliance or emergency projects.

True or false? Except for complaince and emergency projects, only projects that have been assessed against project selection criteria should be considered for formal approval.

Answer: *True.* Having a defined set of project selection criteria against which all potential projects are assessed ensures greater chances of project success.

The project selection criteria represent initial constraints imposed on a project because they must be met before a project can be approved to go any further.

EXAM TIP **You might be asked about some form of financial or mathematical calculation used to justify whether a project should proceed. You should know that it is a form of project selection criteria. The most likely one is focused on either present value (PV) or net present value (NPV).**

MORE INFO **You can find out more about project selection techniques in The Standard for Portfolio Management (Project Management Institute, 2013) and The Standard for Program Management (Project Management Institute, 2013).**

Project sponsor

As part of the tasks involved in initiating the project and assessing whether it should proceed, you will require the input and support of the project sponsor. The project sponsor is an internal stakeholder who provides financial and political support for the project and has ultimate accountability for its success. The project manager reports directly to the project sponsor, and it is important that the two have a good working relationship.

The sponsor provides the initial idea, opportunity, or issue that needs to be addressed by the project; and furnishes initial authorization for project assessment tasks to be completed before the sponsor takes responsibility for approving the project by authorizing the project charter.

True or false? The project sponsor manages the project.

Answer: *False.* The project sponsor provides financial and political support for the project and has ultimate accountability for the project, but does not actively manage it. It is the role of the project manager to take responsibility for managing the project and report to the project sponsor.

The project sponsor is part of the project steering committee that provides oversight, and governance and senior level advice to the project manager. The project manager reports regularly to the project steering committee on the project progress and any risks or issues.

True or false? The project manager is part of the project steering committee.

Answer: *False.* The project steering committee is composed of senior-level stakeholders and SMEs who provide oversight and governance to the project. The project manager reports to the project steering committee and is not part of it.

EXAM TIP **Ensure that you know the different roles of project manager, project sponsor, and project steering committee members. They all have distinct roles and responsibilities, and you should know who is responsible for the different parts of a project.**

MORE INFO **Chapter 1 of the PMBOK® Guide, 5th edition has more information about the role of the project manager.**

Customer

The customer is the stakeholder who is requesting the delivery of a unique product, service, or result from the performing organization. The customer can be either internal or external to the performing organization. If the customer is external to the

performing organization, a contract can be used between the organizations to document roles and financial responsibility between the two organizations. The project manager liaises directly with customers and seeks to understand their requirements as part of this project assessment task.

True or false? The project sponsor and the customer are the same.

Answer: *False.* The project sponsor and customer are different roles, and they should be separate because they have different interests in the project. The project sponsor provides financial and political support for the project; the customer has expectations about and requirements for the project deliverable.

Successfully completing any project assessment relies heavily on evaluating and understanding what a customer requires of the project, so it is imperative that a project manager seek to understand the customer's requirements.

EXAM TIP **Ensure that you know the differences between the project sponsor and customer, and the respective roles of each. A key difference is that the project sponsor comes from within the performing organization, whereas the customer can be internal or external depending on the nature of the project.**

Can you answer these questions?

You can find the answers to these questions at the end of this chapter.

1. Why is important that all projects are subject to a defined project selection process?
2. What are typical financial criteria used to assess projects?
3. What is the present value of $50,000 in 2 years at a discount rate of 10 percent?
4. Your project will cost $30,000 and generate income in the first year of $7,000, $10,000 in the second year, and $15,000 in the third year. What is the net present value of your project at a discount rate of 8 percent?
5. What role does the project sponsor play in the project?

Task 1.2: Define the high-level scope of the project based on the business and compliance requirements, in order to meet the customer's project expectations.

This task is part of the iterative description of the scope of work of the project and is the first iteration of this process that focuses on the high-level scope of the project, mainly reflecting the customer's project expectations and requirements.

MORE INFO **You can find out more about this objective by reading the Develop Project Charter process in the PMBOK® Guide, 5th edition or Chapter 2 of the PMP® Training Kit.**

Exam need to know...

- Statement of work

  For example: What is the purpose of a statement of work?
- Project and product scope

  For example: What is the difference between the project scope and the product scope?
- Customer expectations

  For example: Why are customer expectations important when defining the project scope?

Statement of work

The project statement of work is a high-level narrative description of the product, service, or result to be delivered by a project. It is the first iteration of what will eventually become the complete project scope statement that contains only that information, which is known at this early initiation point in the project. It contains as much information about the business need for the project, the stakeholder requirements and expectations, and a product scope description; and how all of these contribute to, and align with, the organization's strategic goals. Additionally, the project statement of work will be used as an input into future scope, time, cost, quality, and risk tasks. During this iterative process, it will be further defined.

True or false? The project statement of work contains a complete description of all the work to be done as part of the project.

Answer: *False.* Given that the project statement of work is part of the initiating work on the project, it contains only as much information as is known at that time. Generally, a complete description of all the work to be done as part of the project is not known at this point in initiating a project, so the project statement of work contains a high-level narrative description of the product, service, or result delivered by a project.

The complete description of all the work to be done as part of the project is included in the project scope statement.

> ***EXAM TIP*** **If a question in the exam refers to a project statement of work, you should immediately know that the project is in the early initiating stages, and any information it contains will be high level and generally in narrative form only.**

> ***MORE INFO*** **You can find out more about the project statement of work in Chapter 4 of the PMBOK® Guide, 5th edition.**

Project and product scope

The project statement of work is a high-level narrative description of products and services, or a result to be delivered as part of the project, and refers to both project scope and product scope. The product scope is a subset of the project scope that

focuses on the product, service, or result to be delivered to meet customer expectations as part of the project. The project scope refers to all work to be done as part of the project—including initiating, planning, executing, monitoring, and controlling—and closing project management tasks. Figure 1-2 shows the product scope as a subset of the total project scope.

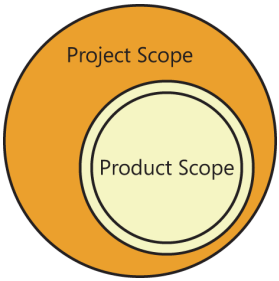

FIGURE 1-2 A diagram showing the product scope as a subset of the project scope

True or false? The work to be done as part of a project includes both the product and project scope.

Answer: *True*. In order to deliver the product, service, or result of the project, the work to be done refers to both the product and project scope.

> ***EXAM TIP*** **When reading questions in the exam, pay particular attention to whether the question is referencing the project or product scope. You might easily think the word says "project" because that is what you are looking for, when in fact it is referring to a "product" scope or "product" lifecycle.**

Customer expectations

The customer's expectations of the project are central to the very reason why the project exists. As such, it is very important that as part of the tasks involved in initiating the project that a project manager seeks to fully understand exactly what the customer's project expectations are in the initiating phase of a project. These expectations are captured in the project statement of work. The project manager might want to provide the customer with several drafts of the project statement of work and seek feedback, in order to ensure that the customer's project expectations are correctly and fully captured.

> ***NOTE*** **Some projects have external customers who have contracted the organization to complete the required work. In other instances, customers are internal to the organization.**

True or false? The customer's project expectations define the project scope of work.

Answer: *False.* The customer's project expectations are an important part of the project scope of work but do not represent the entire project scope.

EXAM TIP **Given that most projects are undertaken in response to a customer's request, it is imperative that a project manager have a direct relationship with the customer. In the exam, you should assume that the project manager has direct access to the customer in order to define the customer's project expectations. Customer acceptance is a primary focus of any project that can be obtained only by first understating and documenting the conditions for acceptance at an early stage in the project.**

Can you answer these questions?

You can find the answers to these questions at the end of this chapter.

1. What information does the project statement of work contain?
2. Why is the statement of work typically in narrative form only?
3. What is the difference between the project scope and the product scope?
4. Why is defining the customer's project expectations important?
5. Who takes responsibility for ensuring that the customer's project expectations are gathered and documented?

Task 1.3: Perform key stakeholder analysis using brainstorming, interviewing, and other data-gathering techniques, in order to ensure expectation alignment and gain support for the project.

To gain support for the project, a key means of discovering and documenting exactly what stakeholder expectations are is to use various data-gathering techniques. A project manager should always take responsibility for communicating with stakeholders. There are various ways to ensure that stakeholder expectations are aligned with the project goals and deliverables and that stakeholders support the project.

MORE INFO **You can find out more about this objective by reading the Identify Stakeholders process in the PMBOK® Guide, 5th edition or Chapter 11 of the PMP® Training Kit..**

Exam need to know...

- Stakeholders

  For example: What is any person or organization that can be affected by the project called?
- Stakeholder analysis

  For example: How does a project manager identify the stakeholders that must be monitored the most?
- Data-gathering techniques

  For example: How is information about stakeholders gathered?
- Stakeholder register

  For example: How does a project manager record individual stakeholder interests in the project?

Stakeholders

A stakeholder is defined as any person, group, or organization that can affect or be affected by the project. The primary goal that the project manager has in identifying stakeholders is to ensure their support for the project (or that they do not oppose the project). It is important to fully understand the stakeholder expectations and requirements of the project so they can be met, managed, or influenced.

True or false? Stakeholders on a project include only the project manager, project sponsor, customer, and project team members.

Answer: *False.* These are all excellent examples of some stakeholders that you might have on your project, but the definition of "stakeholders" is much broader than those people directly involved in the project. It includes any person, group, or organization that can affect or be affected by the project or any of its deliverables.

> ***EXAM TIP*** **You will find a great emphasis in the exam placed upon the identification and influencing of stakeholders. Influencing is the process of managing and changing stakeholder expectations and requirements of the project so that they support the project, or at least do not oppose it. A project manager uses a variety of interpersonal skills, management skills, and communications techniques to proactively carry out stakeholder influencing.**

> ***MORE INFO*** **Chapter 13 of the PMBOK® Guide, 5th edition has more information about the process of identifying stakeholders.**

Stakeholder analysis

After stakeholders have been identified, it is important to analyze their expectations, requirements, and the priority with which they should be looked after. This process of stakeholder analysis includes various techniques for gathering and analyzing quantitative and qualitative information about the stakeholders. The first step of stakeholder analysis is to identify all potential project stakeholders and relevant information about them. The second step is to analyze the potential impact, influence, or support that each stakeholder has or could generate for the project, and then use this information to classify and prioritize stakeholders to ensure an efficient use of stakeholder expectation management tasks and activities.

Note that although a lot of stakeholder analysis is done at the beginning of the project, new stakeholders can appear at any point during the project lifecycle, and stakeholder analysis has to be updated to reflect this.

True or false? The project manager should take ultimate responsibility for the identification and analysis of stakeholders.

Answer: *True.* The project manager takes responsibility for the identification and analysis of stakeholders, but they use the skills and experience of project team members and SMEs with experience in this particular area to do the work.

The result of the stakeholder analysis is a stakeholder register that contains all relevant information about the stakeholders and a prioritized list of stakeholders. Stakeholders can then be represented graphically on a classification model stakeholder analysis such as a grid that shows power/interest, power/influence, or influence/impact. Figure 1-3 shows an example of a power and interest grid that classifies how stakeholders should be managed.

		LEVEL OF INTEREST	
		Low	High
Power	Low	Monitor	Keep informed
	High	Keep satisfied	Key players, manage closely

FIGURE 1-3 A grid showing the classification of stakeholders according to the level of power and interest they have in the project

An additional stakeholder classification model is a salience model, which describes stakeholders based on their level of power, urgency, and legitimacy. Figure 1-4 shows an example of a salience model.

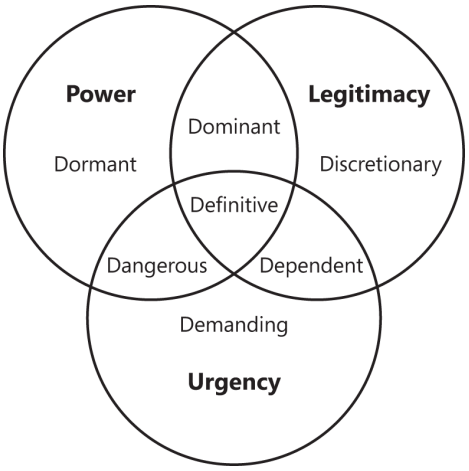

FIGURE 1-4 A diagram showing the intersection and overlap of stakeholder power, urgency, and legitimacy

Data-gathering techniques

In order to understand what stakeholder expectations are, a project manager uses a variety of data-gathering techniques. Each of these data-gathering techniques is focused on soliciting information from or about identified stakeholders. Data-gathering techniques can include any of the following:

- **Brainstorming** Gathering experts with particular information into a meeting and requesting that they began to think laterally in order to come up

with as many different ideas as possible. This is an effective technique to identify a wide range of potential stakeholders.

- **Interviewing** This technique involves interviewing stakeholders directly and in formal or informal settings to determine their expectations of the project. It can also be used to gather information about stakeholders from people with experience in dealing with particular stakeholders.
- **Focus groups** A technique that can facilitate specific information about stakeholder expectations and how they can be managed and influenced.
- **Facilitated workshops** A technique that uses focused workshop sessions to bring together key stakeholders to more formally define the requirements and expectations of the project.
- **Questionnaires and surveys** A technique that can be used to solicit information from stakeholders who might not want to give it in person or are geographically isolated from the project.
- **Observations** A technique that can be used by the project manager and SMEs to observe and document stakeholders' expectations of the project.

True or false? The best method of gathering data about stakeholders is to ask the stakeholders directly.

Answer: *True*. Although there are many ways to gather information about stakeholder expectations, the best method is to communicate directly with them.

> ***EXAM TIP*** **Questions in the exam assume that you understand the importance of gathering data about stakeholder expectations because understanding them is seen as crucial to the success of the project. Failure to do so means that you could have a stakeholder or group of stakeholders actively opposing your project.**

Stakeholder register

As a result of carrying out stakeholder identification and analysis, you develop a stakeholder register that lists all relevant information about stakeholders, including their contact details, their interest in the project, an assessment of their ability to influence or affect the project, and your particular strategies for managing and influencing their expectations. The stakeholder register should be reviewed and updated on a regular basis because stakeholders and their expectations can change throughout the lifecycle of a project.

True or false? The stakeholder register can be used to understand stakeholder power and influence on the project.

Answer: *True*. The stakeholder register documents many things about individual stakeholders, including level of power, influence, impact, and interest in the project.

The stakeholder register is an important document used as a key input into tasks focused on collecting requirements, plan and quality management, planning communications management, planning risk management, identifying risks, and planning procurement management.

EXAM TIP **You should assume that you have a well-documented stakeholder register and that it is kept up to date. If you have need to communicate with any stakeholders and are unsure about their interest in the project or the best way to manage their expectations, the stakeholder register is the best place to look.**

Can you answer these questions?

You can find the answers to these questions at the end of this chapter.

1. What is the best definition of a stakeholder?
2. What is the key purpose of using data-gathering techniques during stakeholder analysis?
3. If you have gathered a group of stakeholders together in a meeting and are asking them to think creatively about potential project deliverables and ways of achieving them, what data-gathering technique are you using?
4. What information is contained in the stakeholder register?
5. If you have identified stakeholders on your project and classified them according to their power, legitimacy and urgency, what model are you using?

Task 1.4: Identify and document high-level risks, assumptions, and constraints based on current environment, historical data, and/or expert judgment, in order to identify project limitations and propose an implementation approach.

A key task performed during project initiation is the preliminary identification and documentation of high-level risks, assumptions and constraints that the project is subject to. This information is very useful in assessing the merits of whether the project should proceed, and if given approval to proceed with the project, this information also informs more detailed planning on how to deal with identified risks, assumptions, and constraints.

MORE INFO **You can find out more about this objective by reading the Develop Project Charter process in the PMBOK® Guide, 5th edition or Chapter 2 of the PMP® Training Kit.**

Exam need to know...

- High-level risks

  For example: What does an initial assessment of project risks reveal?
- Assumptions and constraints

  For example: What factors will play an important role in work involved in initiating a project?
- Historical data

  For example: When beginning work a new project, what resource should a project manager ensure they have access to in order to ensure they are able to leverage past experience?

- Implementation approach
  For example: What is the best implementation approach for your project?

High-level risks

During the initiating phase of any project, it is important to identify and document any known high-level risks that might negatively or positively affect the project. Given that this task is performed during initiating processes, it is possible to determine only high-level risks. A more detailed definition of risks is carried out in the risk management planning processes.

True or false? All high-level risks adversely affect the project.

Answer: *False.* A risk represents uncertainty and can be either positive or negative.

High-level risks can be identified via a variety of means, including an examination of archived historical data, lessons learned, and/or the use of experts.

> ***EXAM TIP*** **The questions in the exam assume that you have been through a thorough set of initiating tasks that have included a business assessment of the project and that you have carried out tasks associated with the identification and documentation of high-level risks.**

Assumptions and constraints

It is important to document any known assumptions and constraints that affect the project in order that they be included in any assessment of whether a project should go ahead, and it is also useful when you undertake more detailed planning of the project after it has approval to proceed. The assumptions that you make become foundational and instrumental when approving or declining the project, so it is important that they are documented carefully. For example, you can make assumptions about market conditions, availability of technology and resources, future state of financial markets, and demand for use of the project deliverable. Each of these assumptions is critical for approving and planning the project.

It is also important during the initiating tasks that any known constraints (such as time, cost, quality, or scope) are also documented so that they can be used to assess the viability of the project and as a basis of future more detailed planning.

True or false? Any assumptions made during initiating processes are not relevant to the future detailed planning processes.

Answer: *False.* Any assumptions made during initiating processes affect the project right from the beginning: whether it is approved and any subsequent more detailed planning.

> ***EXAM TIP*** **As you collect your assumptions and constraints, you should document and store them in a place in which they can be accessed easily, and you should refer to them regularly to a project to see whether they are changed.**

Historical data

A key element of any project is the historical data and information collected and made available to future projects so that mistakes are not repeated, and factors that contribute to success are identified and repeated. It is a very valuable resource that a project manager should have access to, particularly during the initiating work being completed. Additionally, a project manager should develop and document historical data future projects to use.

True or false? Historical data is limited to relating to cost and time of projects.

Answer: *False.* Historical data and information can include any documents and data about prior projects, including project files, project records, correspondence, contracts, post-implementation reviews, and lessons learned.

> ***EXAM TIP*** **The exam assumes that you have access to historical data from previous projects and that as part of your own project you collect, document, and store your own historical data. Historical data is one of the most important organizational process assets that a project manager should have access to.**

Implementation approach

After you have gathered enough preliminary information about your project—including the financial or non-financial viability, and any high-level risks, assumptions and constraints—you can decide on the best implementation approach to take to successfully deliver your project. The implementation approach that you select reflects the complexity, size, difficulty, and industry of your project. The implementation approach also helps you make decisions about particular project management methodologies to use to deliver your project. The particular implementation approach or project management methodology you choose to use is documented in your organizational process assets.

Typical implementation approaches reflect different project lifecycles and the speed of the project work. The following are the most common forms of implementation approach:

- **Phased** An implementation approach that sees the project broken down into phases of work to be completed with a significant milestone between each phase, which represents a stop/go point in the project.
- **Iterative or incremental** Used when a product of a project will be developed through a series of repeated cycles, each one incrementally adding to the understanding of the functionality of the product.
- **Adaptive** Used in projects with high levels of change and ongoing stakeholder involvement. These methods are often used in complex IT projects and usually referred to as change-driven or agile methods.
- **Predictive** Used when the scope of the project and product can be fully defined and broken down into a series of easy-to-find sequential steps.

True or false? Every project that you work on uses the same implementation approach.

Answer: *False.* Each project is different in relation to size, complexity, and difficulty, so the implementation approach for each project should reflect the unique aspects of the project.

NOTE **Tailoring is the process of selecting which implementation approach and project methodology to use when completing a project. In addition to deciding which particular implementation approach best suits the project, a project manager should also select the particular methodology that best delivers the project and tailor it to suit.**

EXAM TIP **Questions in the exam assume that you have a defined and documented implementation approach as part of your organizational process assets and use it.**

MORE INFO **Chapter 1 of the PMP® Training Kit provides more information about implementation approaches and the project lifecycle.**

Can you answer these questions?

You can find the answers to these questions at the end of this chapter.

1. Why is it important to identify high-level risks as soon as possible in the project initiation processes?
2. What are the assumptions that you might make about the project?
3. What are examples of typical project constraints?
4. What is the best implementation approach to use for a project?
5. If you are first completing the process of developing a business case for a project, waiting for approval to proceed before moving on to design the deliverable, and then waiting for approval to start manufacturing, what sort of implementation approach should you use?

Task 1.5: Develop the project charter by further gathering and analyzing stakeholder requirements, in order to document project scope, milestones, and deliverables.

A fully developed project charter that reflects the information known about the project during the initiating phases, and enables senior stakeholders to make informed decisions about whether the project should proceed is central to every project no matter the size, complexity, or duration.

MORE INFO **You can find out more about this objective by reading the Develop Project Charter process in the PMBOK® Guide, 5th edition**

Exam need to know...

- Project charter
  For example: What are the key elements of the project charter?
- Stakeholder requirements
  For example: What are stakeholder requirements?
- Milestone
  For example: What is the definition of a milestone?

Project charter

The project charter is the foundational document for the project that proves that it has political and financial support, and authorizes project work to formally begin. Each and every project undertaken must have an approved project charter. The project charter contains information such as the known statement of work, stakeholder requirements, milestones, and deliverables. Once approved, it also includes the signatures of significant stakeholders such as the project sponsor, project manager, and customer.

The tasks involved in further gathering and analyzing stakeholder requirements build on the work performed in the previous initiating tasks that gathered and defined preliminary information. This task takes the preliminary information and refines it in order to analyze stakeholder requirements about project scope, milestones, and deliverables more fully. This might involve an iterative process of presenting drafts of the project charter to stakeholders to get their feedback and to gauge support for developing the final project charter and presenting it for approval.

True or false? All projects, no matter how big or complex, must have a project charter.

Answer: *True*. One of the foundational concepts of project management is that each and every project has a project charter.

The size and complexity of the project charter reflects the size and complexity of the project being undertaken. A short and simple project might have a short and simple project charter; a complex project with a long duration might have an extensive project charter that is prepared as part of the initiating phase. In this case, the milestone between phases is the approval of the project charter.

EXAM TIP **When answering questions in the exam, be aware that the absence of certain things means you should stop the project and ensure that the missing document is created before proceeding. One of these essential elements is the project charter. If you discover that the project is proceeding without an approved project charter, your first course of action is to stop the project and develop a project charter to be approved by the appropriate stakeholders.**

MORE INFO **You can find out more about the project charter by reading Chapter 4 of the PMBOK® Guide, 5th edition.**

Stakeholder requirements

Stakeholder requirements define the expectations of the project and product for the stakeholders. The customer is one of your stakeholders, and the requirements will focus on the project deliverables. Other stakeholders might have requirements about other aspects of the project such as quality, communications, health and safety, and environmental management. It is the responsibility of the project manager to capture and document these requirements in the project charter.

True or false? Stakeholder requirements refer only to the technical specifications of the product of the project.

Answer: *False.* The requirements of the customer might focus on the technical specifications of the product of the project, but other stakeholders have other requirements for the project.

Milestone

The project charter is developed during the initiating phase of a project lifecycle, and at this point detailed information about the project schedule is not known. However, there should be enough information to define the major milestones that must be met. A milestone can be a normal part of the project schedule or it can be used as a point between phases that might require specific approval before proceeding to the next phase.

True or false? The project charter should contain detailed information about the project schedule.

Answer: *False.* The project charter generally does not contain detailed information about the project schedule, but does contain information about known milestones. Detailed information on the project schedule is completed as part of the planning activities carried out after the approval of the project charter.

EXAM TIP **Remember in the exam that a milestone has a duration of zero days. This is particularly important during your project-scheduling work.**

Can you answer these questions?

You can find the answers to these questions at the end of this chapter.

1. At what point in a project should the project charter be developed?
2. What is the purpose of the project charter?
3. What sort of project should always have a project charter?
4. If you are working on a project and discover the project charter was never formally signed off on, what should you do?
5. What sort of information is captured as part of documenting stakeholder requirements?

Task 1.6: Obtain approval for the project charter from the sponsor and customer (if required), in order to formalize the authority assigned to the project manager and gain commitment and acceptance for the project.

This task builds on the work completed by the previous tasks and seeks to gain official approval for the project charter from the relevant stakeholders. Approval from the project sponsor is essential, and if there are internal or external customers, their approval is also required. Approving the project charter formally authorizes the project to proceed.

> ***MORE INFO*** **You can find out more about this objective by reading the Develop Project Charter process in the PMBOK® Guide, 5th edition or Chapter 2 of the PMP® Training Kit.**

Exam need to know...

- Project charter approval

  For example: What must occur in order to commence detailed planning and execution work on a project?
- Project managers authority

  For example: How does a project manager ensure they have the ability to make decisions to keep the project moving along?

Project charter approval

After gathering all the information that is known about the project at the initiating stage of the project and including it in the project charter, the next step is to get formal approval from the relevant stakeholders for the project charter. Internally, this should be done by the project sponsor on behalf of the performing organization. The customer might also approve the project charter. Approval for the project charter should be done formally and in writing, so that there is a clear record of the commitment given to the project. A project manager should not proceed on a project until formal approval has been given.

True or false? Project charter approval can be represented as a milestone in the project schedule.

Answer: *True.* Whether the project charter is approved can be displayed as a milestone in the project schedule and represent a stop/go point in the project.

> ***EXAM TIP*** **Remember that after the project charter is approved, it should not be changed except under exceptional circumstances that represent significant changes to the project. The project sponsor must be consulted about any potential changes to the project charter.**

Project manager authority

In addition to the information about the scope, milestones, deliverables, a high-level risks, assumptions, and constraints about the project, the project charter should identify the project manager and also clearly state the level of authority that project manager has. Ideally, the project manager has high levels of responsibility and authority, often documented as delegated authority levels in relation to ability to approve changes and control budget and resources on a project.

True or false? A project manager can have either high levels of both responsibility and authority, or low levels of both responsibility and authority. What is important is that they are equal.

Answer: *False.* A project manager has both high levels of responsibility and authority, which is documented in the project charter.

There are a number of other roles in the project such as project coordinator and project expeditor, which both have lower but always equal levels of responsibility and authority.

EXAM TIP **If a question in the exam presents a scenario in which a project manager's authority is being questioned, the place to look for where this level authority is documented is the project charter.**

The biggest challenge to a project manager's authority generally comes from the type of organizational structure in which the project is being completed. Most organizations are arranged as functional structures, and it is the functional manager who has the most power and authority over resources in the organization. In this case, the project manager has little or no authority. In a matrix organization, the project manager uses resources from across the different functional areas of the organization. If it is a strong matrix, the project manager has been given more power and authority than the functional manager over resources. If it is a weak matrix, the functional manger has more power and authority over resources than the project manager. In a balanced matrix, they both have equal amounts of power.

Only in a projectized organizational structure, in which the company is organized along the projects it undertakes, does the project manager have full power and authority.

MORE INFO **You can find out more about organization structures and a project manager's power in Chapter 2 of the PMBOK® Guide, 5th edition.**

Can you answer these questions?

You can find the answers to these questions at the end of this chapter.

1. Who should take responsibility for getting approval of the project charter?
2. What level of responsibility and authority should a project manager have?
3. In a weak matrix organization, who has the most power: the functional manager or the project manager?

4. At what point in the project lifecycle should the project manager be identified?
5. If you are a project manager in an organization, are utilizing staff from several different functional areas, and you are continually having to ask each of the functional managers to use staff you need on the project and they occasionally decline your requests, what sort of organizational structure are you working in?

Answers

This section contains the answers to the "Can you answer these questions?" sections in this chapter.

Task 1.1: Perform project assessment based upon available information and meetings with the sponsor, customer, and other subject matter experts, in order to evaluate the feasibility of new products or services within the given assumptions and/or constraints.

1. It is important that all projects are subject to a defined project selection process in order to standardize and provide a robust, defensible process for selecting projects from all the available projects that could be undertaken.
2. Difficult financial criteria for assessing whether or not the project should go ahead include payback period, present value, and net present value, return on investment, internal rate of return and cost benefit analysis.
3. The present value is $50,000/((1+ .1)2) = $41 322.31.
4. The net present value equals –$30,000 + ($7,000/((1+ .08)1)) + ($10,000/((1+ .08)2)) + ($15,000/((1+ .08)3)) = $3, 037.65.
5. The project sponsor is the person in the organization completing the project who takes ultimate accountability for the success of the project, and provides financial and political support as part of the project charter-approval process.

Task 1.2: Define the high-level scope of the project based on the business and compliance requirements, in order to meet the customer's project expectations.

1. The project statement of work contains as much information as is known and a narrative form about the work to be completed in the project. Given that it is developed during the initiating tasks, it does not contain as much information as a fully developed project scope.
2. The project statement of work is typically in narrative form because that is the easiest way to describe the level of detail that is known about the work to be done at that stage in the project. It is highly unlikely that you can produce

a detailed description using diagrams, plans, or drawings at this stage because it will be done at the planning stages.

3. The product scope refers to the deliverable of the project, and might include technical specifications and requirements about the deliverable. The project scope includes the product scope and all the other work to be done as part of managing the project.
4. It is important to define customer expectations of the project because they are the party that defines and ultimately pays the deliverable of the project. If you do not understand customer expectations, you will not satisfy them.
5. It is the responsibility of the project manager to ensure that the stakeholders' expectations are gathered and documented. He or she might not actually do the work, but must take responsibility for ensuring that it is done.

Task 1.3: Perform key stakeholder analysis using brainstorming, interviewing, and other data-gathering techniques, in order to ensure expectation alignment and gain support for the project.

1. A stakeholder is best defined as any person, group, or organization that can affect or be affected by your project.
2. Stakeholders provide expectations and requirements of the project; the best way to gather these expectations and requirements is to use data-gathering techniques to communicate with stakeholders.
3. This is an example of using brainstorming as a data-gathering technique.
4. The stakeholder register contains information about stakeholders: their contact details; a description of their interest, influence, or impact on the project; and a description of how their expectations will be managed.
5. This is an example of using the salience model to classify stakeholders.

Task 1.4: Identify and document high-level risks, assumptions, and constraints based on current environment, historical data, and/or expert judgment, in order to identify project limitations and propose an implementation approach.

1. It is important to identify the high-level risks as soon as possible because they might affect whether the project is given approval to proceed.
2. You will make several assumptions that influence whether or not the project is approved. These assumptions include future market conditions, demand for the product or deliverable, and quality of information used to approve a project.
3. Typical examples of project constraints include time, scope, cost, and quality. Other constraints include risk, health and safety, and customer satisfaction.

4. The type of project and its duration, complexity, and size dictate the best implementation approach to use. There is no one-size-fits-all solution.
5. This is an example of a phased implementation approach.

Task 1.5: Develop the project charter by further gathering and analyzing stakeholder requirements, in order to document project scope, milestones, and deliverables.

1. You should begin development of the project charter as soon as you begin assessing whether the project will be approved. The final form of the project charter contains all the information needed to approve it.
2. The purpose of the project charter is to document everything that is known about the project at the initiating stage and to provide enough information so the project has financial and political support to proceed to detailed planning.
3. All projects, no matter the size and complexity, should have a project charter.
4. If you are working on a project and discover the project charter was never formally signed off on, you should immediately discuss it with the project sponsor and stop work until it is signed.
5. The sort of information captured as part of documenting stakeholder requirements includes technical requirements and other non-technical requirements for the project.

Task 1.6: Obtain approval for the project charter from the sponsor and customer (if required), in order to formalize the authority assigned to the project manager and gain commitment and acceptance for the project.

1. The project manager should take responsibility for getting approval of the project charter, but it is the project sponsor and the customer who formally authorize the project charter.
2. A project manager should have high levels of both responsibility and authority, and this should be documented in the project charter.
3. In a weak matrix organization, the functional manager has more power than the project manager.
4. The project manager should be identified and authority given during the development of the project charter.
5. This is an example of the functional manager having the most power; it is a weak matrix organizational structure.

Index

A

B

C

D

E

F

G

H

I

K

L

M

N

O

P

Q

R

S

T

U

V

W

About the author

SEAN WHITAKER, BA, MSc, MBA, PMP, has a diverse project management background, having successfully managed complex projects in the construction, telecommunications, and IT industries. He brings this diversity of experience into sharp focus with his emphasis on professional and appropriate project management. Sean regularly teaches and speaks about project management, and has been a long-term volunteer with the Project Management Institute. He is also the cofounder and CEO of Falcon Training, one of the world's best project management training companies.

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When not writing about, speaking about, or teaching project management, Sean manages to find time to pursue his musical hobbies. He is always happy to answer questions about project management and can be reached at *sean@seanwhitaker.com*.

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