

HAROLD KERZNER | FRANK P. SALADIS

PROJECT MANAGEMENT

WORKBOOK AND
PMP[®]/CAPM[®] EXAM
STUDY GUIDE

TWELFTH EDITION

Includes
access to a
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exam

WILEY

**Project Management
Workbook and PMP® /CAPM®
Exam Study Guide**

Project Management Workbook and PMP® / CAPM® Exam Study Guide

Twelfth Edition

HAROLD KERZNER, PH.D.
FRANK P. SALADIS, PMP

WILEY

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Contents

| | |
|---|-----------|
| Preface | xi |
| Chapter 1 Project Management Overview | 1 |
| Glossary of Terms | 2 |
| Activities, Questions, and Exercises | 3 |
| Answers to Questions and Exercises | 17 |
| Chapter 2 Project Management Growth: Concepts and Definitions | 21 |
| Glossary of Terms | 21 |
| Activities, Questions, and Exercises | 22 |
| Kerzner “Quick Tips” for the Project Management Institute PMP® and CAPM® Exams | 30 |
| Answers to Questions and Exercises | 32 |
| Chapter 3 Organizational Structures | 37 |
| Glossary of Terms | 37 |
| Activities, Questions, and Exercises | 39 |
| The Project Management Center of Excellence: A Review | 45 |
| Kerzner “Quick Tips” for the Project Management Institute PMP® Exam | 46 |
| Answers to Questions and Exercises | 47 |
| Chapter 4 Organizing and Staffing the Project Office and Team | 53 |
| Glossary of Terms | 53 |
| Activities, Questions, and Exercises | 55 |
| Kerzner “Quick Tips” for the Project Management Institute PMP® and CAPM® Exams | 64 |
| Answers to Questions and Exercises | 64 |

| | |
|---|------------|
| Chapter 5 Management Functions | 73 |
| Glossary of Terms | 73 |
| Activities, Questions, and Exercises | 75 |
| Kerzner “Quick Tips” for the Project Management Institute | |
| PMP® and CAPM® Exams | 88 |
| Answers to Questions and Exercises | 90 |
| Chapter 6 Communications Management | 97 |
| Glossary of Terms | 98 |
| Activities, Questions, and Exercises | 99 |
| Kerzner “Quick Tips” for the Project Management Institute | |
| PMP® and CAPM® Exams | 104 |
| Answers to Questions and Exercises | 105 |
| Chapter 7 Conflicts | 109 |
| Glossary of Terms | 110 |
| Activities, Questions, and Exercises | 111 |
| Kerzner “Quick Tips” for the Project Management Institute | |
| PMP® and CAPM® Exams | 120 |
| Answers to Questions and Exercises | 121 |
| Chapter 8 Special Topics | 125 |
| Glossary of Terms | 126 |
| Activities, Questions, and Exercises | 127 |
| Kerzner “Quick Tips” for the Project Management Institute | |
| PMP® and CAPM® Exams | 136 |
| Answers to Questions and Exercises | 138 |
| Chapter 9 The Variables for Success | 143 |
| Glossary of Terms | 145 |
| Activities, Questions, and Exercises | 146 |
| Kerzner “Quick Tips” for the Project Management Institute | |
| PMP® and CAPM® Exams | 155 |
| Answers to Questions and Exercises | 156 |
| Chapter 10 Working with Executives | 161 |
| Glossary of Terms | 162 |
| Activities, Questions, and Exercises | 163 |
| Kerzner “Quick Tips” for the Project Management Institute | |
| PMP® and CAPM® Exams | 170 |
| Answers to Questions and Exercises | 171 |

| | |
|---|------------|
| Chapter 11 Planning | 175 |
| Glossary of Terms | 178 |
| Activities, Questions, and Exercises | 180 |
| Kerzner “Quick Tips” for the Project Management Institute | |
| PMP® and CAPM® Exams | 200 |
| Answers to Questions and Exercises | 200 |
| Chapter 12 Network Scheduling Techniques | 207 |
| Glossary of Terms | 208 |
| Time Management Processes: A Brief Review | 211 |
| Activities, Questions, and Exercises | 215 |
| Kerzner “Quick Tips” for the Project Management Institute | |
| PMP® and CAPM® Exams | 226 |
| Answers to Questions and Exercises | 227 |
| Chapter 13 Pricing and Estimating | 233 |
| Glossary of Terms | 234 |
| Activities, Questions, and Exercises | 237 |
| Kerzner “Quick Tips” for the Project Management Institute | |
| PMP® and CAPM® Exams | 246 |
| Answers to Questions and Exercises | 247 |
| Chapter 14 Cost Control | 251 |
| Glossary of Terms | 252 |
| Activities, Questions, and Exercises | 257 |
| Kerzner “Quick Tips” for the Project Management Institute | |
| PMP® and CAPM® Exams | 264 |
| Answers to Questions and Exercises | 265 |
| Chapter 15 Metrics | 269 |
| The Value of Metrics | 270 |
| The Ground Rules for Metrics | 271 |
| Glossary of Terms | 271 |
| Activities, Questions, and Exercises | 272 |
| Kerzner “Quick Tips” for the Project Management Institute | |
| PMP® and CAPM® Exams | 277 |
| Answers to Questions and Exercises | 279 |
| Chapter 16 Trade-Off Analysis in a Project Environment | 281 |
| Glossary of Terms | 282 |
| Activities, Questions, and Exercises | 283 |

| | |
|--|------------|
| Kerzner “Quick Tips” for the Project Management Institute PMP® and CAPM® Exams | 288 |
| Answers to Questions and Exercises | 289 |
| Chapter 17 Risk Management | 293 |
| Glossary of Terms | 294 |
| Activities, Questions, and Exercises | 296 |
| Kerzner “Quick Tips” for the Project Management Institute PMP® and CAPM® Exams | 312 |
| Answers to Questions and Exercises | 313 |
| Chapter 18 Learning Curves | 317 |
| Glossary of Terms | 318 |
| Project Estimating Using Learning Curves | 318 |
| Activities, Questions, and Exercises | 323 |
| Kerzner “Quick Tips” for the Project Management Institute PMP® and CAPM® Exams | 325 |
| Answers to Questions and Exercises | 326 |
| Chapter 19 Contract Management | 329 |
| Major Contract Elements | 330 |
| Procurement Strategies | 330 |
| Glossary of Terms | 331 |
| Activities, Questions, and Exercises | 333 |
| Kerzner “Quick Tips” for the Project Management Institute PMP® and CAPM® Exams | 351 |
| Answers to Questions and Exercises | 353 |
| Chapter 20 Quality Management | 359 |
| Glossary of Terms | 360 |
| Activities, Questions, and Exercises | 362 |
| Kerzner “Quick Tips” for the Project Management Institute PMP® and CAPM® Exams | 371 |
| Answers to Questions and Exercises | 373 |
| Chapter 21 Modern Developments in Project Management | 377 |
| The Project Management Maturity Model (PMMM)—A Closer Look | 379 |
| Other Developments in Project Management | 379 |
| Activities, Questions, and Exercises | 384 |
| Answers to Questions and Exercises | 386 |

| | |
|--|------------|
| Chapter 22 PMP® and CAPM® Exam Review | 389 |
| Eligibility for the PMP® Exam | 390 |
| Eligibility for the CAPM® Exam | 391 |
| General Information about the Exams | 391 |
| Working the Workbook | 392 |
| Preparing for the PMP® Exam | 393 |
| Improving Your Project Management Competency | 395 |
| Project Management Knowledge Review: Key Topics, Learning Points, and Exam Tips | 395 |
| Glossary | 396 |
| Project Scope Management Processes | 407 |
| Project Schedule Management Processes | 410 |
| Project Cost Management Processes | 416 |
| Project Quality Management Processes | 423 |
| Project Resource Management Processes | 431 |
| Project Communications Management Processes | 438 |
| Project Risk Management Processes | 442 |
| Procurement Management Processes | 449 |
| Stakeholder Management Processes | 455 |
| General Note about Outputs to <i>PMBOK® Guide</i> Processes | 458 |
| Professional Responsibility | 458 |
| Project Management Formulas | 459 |
| Practice Questions for the Project Management Professional (PMP)® Exam | 462 |
| | |
| Chapter 23 Challenging and Engaging Questions and Exercises | 495 |
| How to Solve Logic Problems | 495 |
| Logic Problem #1: Types of Contracts | 499 |
| Logic Problem #2: The Mysterious Network Diagram | 500 |
| Logic Problem #3: The Incomplete Status Report | 501 |
| Logic Problem #4: Another Mysterious Network Diagram | 501 |
| Logic Problem #5: Another Mysterious Network Diagram | 502 |
| Answers | 504 |
| Logic Problem #5 | 505 |
| Challenging Questions and Scenarios | 506 |
| Answers to Challenging Questions | 509 |
| Matching (Memory Jogger) Exercises | 510 |
| Matching Memory Jogger Answer key: | 513 |
| Crashing the Schedule Exercises | 514 |
| Crashing the Schedule (Part 2) | 515 |
| Analyzing the Schedule | 516 |

| | |
|---|-----|
| Analyzing Yet Another Schedule | 517 |
| Answers | 518 |
| Earned Value Problems | 521 |
| Estimating the Budget at Completion Questions | 523 |
| Estimating the Budget at Completion Answers | 524 |
| Decision Trees | 525 |

Preface

The purpose of this workbook is to provide students of project management with meaningful exercises and homework problems that will enhance the knowledge of the subjects included in the textbook *Project Management: A Systems Approach to Planning, Scheduling, and Controlling* (12th edition) by Harold Kerzner, Ph.D.

The material in the workbook is directly related to the subjects and knowledge areas associated with the Project Management Institute's Project Management Professional (PMP)[®] exam and the Certified Associate Project Manager (CAPM)[®] exam and will provide a sound framework for exam preparation.

The workbook is designed to engage the student in activities that will provide practical application of the concepts of project management as described in the textbook and in the *PMI[®] Guide to the Project Management Body of Knowledge (PMBOK[®] Guide)*, Sixth Edition.

Included in the workbook are topic-specific glossaries, common project terms and acronyms, knowledge area summaries, examples of typical project management mathematic formulas and equations, and key project terms, and logic problems. The workbook also includes PMP[®] exam study tips, situational exercises, and sample questions designed to simulate the type of questions that may be encountered on the actual PMP[®] exam.

We hope you will find this book enjoyable and educational.

Project Management Overview

Project management has been practiced for hundreds, actually thousands, of years. Long before computers and sophisticated scheduling techniques became available, the ancestors of today's professional project managers had to determine resource requirements, arrange for material and equipment, and strive to meet a schedule imposed by, in many cases, a powerful leadership entity. They knew that any construction type of undertaking or project endeavor, large or small, required a goal, a set of objectives, a plan, coordination with many functional groups, the management of resources, and the ability to manage change. Additionally, it became very clear that every project requires strong and adaptive leadership. Project managers, by nature of the position, will work with and manage teams and a variety of stakeholders, some of whom can be expected to be a real challenge to work with. Considering this factor, project managers must continue to develop the skills necessary to balance the expectations and demands of each stakeholder while managing project deliverables. This is driving a change in the role of "project manager" to that of "project leader." Today's project managers see themselves as managing part of a business as well as managing a project.

As the world's business and financial environment has changed and evolved, organizational leaders have recognized the value of project management and the competent project manager. Project management has also become a key factor in strategic planning.

Today, project management is practiced, to some extent, in almost every organization from small businesses to Fortune 500 companies to local and state governments. Some organizations follow a very formal methodology, and many organizations have adopted a "management by projects" approach. Some organizations have established project management offices (PMOs) to assist them in developing standards for managing projects and processes and to ensure that these standards are followed. Studies have indicated that the application of project management results in significantly higher levels of performance than those of organizations that do not have a project management discipline. As the project management discipline is adapted into the culture of an organization, the benefits of project management are quickly realized. These benefits include more efficient scheduling of resources, improved and more reliable estimating, higher quality of deliverables, early identification of project risks, issues and problems,

and more effective measurement processes to assess success. In this highly competitive business environment, it is clear that a well- executed project management methodology has become a significant advantage.

Applying project management is certainly a factor in achieving organizational objectives, but it is important to understand the definition and nature of a project. Projects are defined as temporary endeavors with specific start and end dates, and they are initiated to produce a unique product or service. Project management is the application of knowledge skills, tools, and techniques to project activities to meet project objectives. Effective project management is accomplished through the integration of five major project management processes: initiation, planning, execution, monitoring and controlling, and closing. For control purposes, projects are generally divided into phases, and these processes also apply to the management of each phase of a project. As projects are authorized by a project sponsor, a project manager is assigned and becomes accountable for the success of the project through effective leadership and the application of project management techniques. The project manager will ensure coordination between functional organizations and must have the ability to apply the appropriate amount of managerial and cross-organizational support and guidance to achieve success as the project is executed.

Project management, as a discipline or profession, also subscribes to a code of ethics and professional conduct specifically focused on integrity, respect, fairness, and honesty. This includes business ethics as well as project management ethics because we now believe that we are managing our business by projects and that the project managers are actually managing part of a business.

► Glossary of Terms

Key project management terms and definitions to review and remember. The discipline of project management includes a lexicon that is widely used in most industries, and it is beneficial to learn the “language” of the professional project manager.

Deliverable A tangible, verifiable work output. Project work will generally produce multiple deliverables that will comprise the final project deliverable. Deliverables, in some cases can be intangible such as the achievement of good will, brand recognition, and customer satisfaction.

Functional manager Generally, the manager who “owns” or supervises the resources assigned to project activities. Functional managers are considered to be the technical experts and usually provide information about resource requirements, resource capability, task duration estimates, schedule development, and cost estimates. Project managers engage the assistance of functional managers to develop the project plan and subsidiary project plans.

Non-project-driven Generally, these organizations may or may not have a project methodology in place, are not organized around the delivery of projects, and are arranged in a functional organizational structure. Work is generally associated with

manufacturing and production lines. Projects are established as needed to improve or support functional lines and activities or organizational changes.

Program A group of related projects managed in a coordinated way to obtain benefits and control not available from managing them separately. Generally, projects in a program are interrelated.

Project A temporary endeavor undertaken to create a unique product, service, or result. A project has a specific objective, defined start and end dates, and funding limitations. Projects consume resources including human (labor), equipment and materials. A project is generally multifunctional or cross-organizational in nature. Projects generally produce one or more deliverables and deliverables can be tangible or intangible.

Project-driven organization Also known as “project based.” In these organizations all work is characterized through projects. Projects are arranged as separate cost centers and the sum of all project work is associated with organizational goals and strategic objectives.

Project management Application of knowledge skills, tools, and techniques to project activities to meet project requirements. Project management involves the utilization of the five major process groups: initiation, project planning, executing, monitoring and controlling, and closing. These processes are applied to each project phase and enable the project manager to effectively integrate the 10 project management knowledge areas described in the *Guide to the Project Management Body of Knowledge (PMBOK® Guide)* developed by the Project Management Institute, or PMI.

Project sponsor Generally, described as the person or organization that authorizes the project and provides the financial resources required to plan, execute, and deliver the project objectives. The sponsor may be joined by other stakeholders to provide committee sponsorship and/or guidance for this project or for a portfolio of projects.

Triple constraint This term has been used for many years to describe the effects of changes to the competing project demands of time (schedule), cost (budget), and scope (specifications) usually depicted as a triangle. Specifically, the triple constraint emphasized that a change to any one side or element of the triangle will have an effect on the other elements. The triple constraint was also considered to display the key factors that define project success. The triple constraint has been modified and is now part of a list of several competing demands, including scope, time, cost, quality, risk, safety, business value, and resources. Project success is defined using several success factors, including quality, business value added, and fitness for use.

► Activities, Questions, and Exercises

Refer to Chapter One of *Project Management: A Systems Approach to Planning, Scheduling, and Controlling* (12th edition) for supporting information. Review each of the following questions or exercises and provide the answers in the space provided.

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Dr. Kerzner's 16 Points to Project Management Maturity

1. Adopt a project management methodology and use it consistently.
2. Implement a philosophy that drives the company toward project management maturity and communicate it to everyone.
3. Commit to developing effective plans at the beginning of each project.
4. Minimize scope changes by committing to realistic objectives.
5. Recognize that cost and schedule management are inseparable.
6. Select the right person as the project manager.
7. Provide executives with project sponsor information, not project management information.
8. Strengthen involvement and support of line management.
9. Focus on deliverables rather than resources.
10. Cultivate effective communications, cooperation, and trust to achieve rapid project management maturity.
11. Share recognition for project success with the entire project team and line management.
12. Eliminate nonproductive meetings.
13. Focus on identifying and solving problems early, quickly, and cost effectively.
14. Measure progress periodically.
15. Use project management software as a tool, not as a substitute for effective planning or interpersonal skills.
16. Institute an all-employee training program with periodic updates based on documented lessons learned.

■ Exercise

This exercise is intended to provide you with a basis and understanding of the major goals of an enterprise-wide project management methodology and to provide a baseline for process for improvement. The 16 Points to Project Management Maturity define the steps necessary to achieve high-level and consistent project performance and business value.

Review Dr. Kerzner's 16 points and identify the specific benefits associated with each point. Identify actions that may be taken to introduce, implement, or further enhance the value of each of the listed points in an organization.

Example: Adopt a project management methodology and use it consistently.

Action: Provide management with supporting information about how project management can assist in achieving organizational objectives. Obtain best practices documentation from companies that are actively using project management processes and methodologies and provide a summary to executive management.

1. Implement a philosophy that drives the company toward project management maturity and communicate it to everyone.

Action: _____

2. Commit to developing effective plans at the beginning of each project.

Action: _____

3. Minimize scope changes by committing to realistic objectives.

Action: _____

4. Recognize that cost and schedule management are inseparable.

Action: _____

5. Select the right person as the project manager.

Action: _____

6. Provide executives with project sponsor information, not project management information.

Action: _____

7. Strengthen involvement and support of the line management.

Action: _____

8. Focus on deliverables rather than resources.

Action: _____

9. Cultivate effective communications, cooperation, and trust to achieve rapid project management maturity.

Action: _____

10. Share recognition for project success with the entire project team and line management.

Action: _____

11. Eliminate nonproductive meetings.

Action: _____

12. Focus on identifying and solving problems early, quickly, and cost effectively.

Action: _____

- 13.** Measure progress periodically.

Action: _____

- 14.** Use project management software as a tool, not as a substitute for effective planning or interpersonal skills.

Action: _____

- 15.** Institute an all-employee training program with periodic updates based on documented lessons learned.

Action: _____

■ Questions

- 1.** The potential benefits from effective project management are:

- 2.** Describe how the use of a project management methodology may benefit an organization, impact organizational success, and assist in the achievement of strategic objectives.

3. List the factors that are commonly known as competing demands.

4. What factors may be considered to effectively and reliably indicate successful completion of a project?

1.

2.

3.

4.

5.

6.

7.

8.

5. In many organizations the organizational structure itself may create internal communications barriers, management gaps, functional gaps, and operational islands. These gaps and barriers may result in conflicts, inefficiencies, and lower productivity. Describe some of the causes of these gaps and how the gaps can be effectively minimized.

6. Define the term *stakeholder* and provide examples of the stakeholders associated with projects you are engaged in.

7. Describe the purpose or meaning of the term “project management.”

8. The five major project management process groups are:

9. Describe at least three factors that might influence a customer’s perception of project success.
