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THE MANAGERIAL PROCESS 8E



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“Man’s mind, once stretched by a new idea, never regains its original dimensions.”

Oliver Wendell Holmes, Jr.

To my family, who have always encircled me with love and encouragement—my parents (Samuel and Charlotte), my wife (Mary), my sons and their wives (Kevin and Dawn, Robert and Sally), and their children (Ryan, Carly, Connor and Lauren).

C.F.G.

“The reasonable man adapts himself to the world; the unreasonable one persists in trying to adapt the world to himself. Therefore all progress depends on the unreasonable man.” Bernard Shaw, Man and Superman

To Ann, whose love and support have brought out the best in me. To our girls Mary, Rachel, and Tor-Tor for the joy and pride they give me. And to our grandkids, Mr. B, Livvy, Jasper Jones!, Baby Ya Ya, Juniper Berry, and Callie, whose future depends upon effective project management. Finally, to my muse, Neil—walk on!

E.W.L

Preface

Our motivation in writing this text continues to be to provide a realistic, socio-technical view of project management. In the past, textbooks on project management focused almost exclusively on the tools and processes used to manage projects and not the human dimension. This baffled us, since people, not tools, complete projects! While we firmly believe that mastering tools and processes is essential to successful project management, we also believe that the effectiveness of these tools and methods is shaped and determined by the prevailing culture of the organization and interpersonal dynamics of the people involved. Thus, we try to provide a holistic view that focuses on both the technical and social dimensions and how they interact to determine the fate of projects.

Audience

This text is written for a wide audience. It covers concepts and skills that are used by managers to propose, plan, secure resources, budget, and lead project teams to successful completions of their projects. The text should prove useful to students and prospective project managers in helping them understand why organizations have developed a formal project management process to gain a competitive advantage. Readers will find the concepts and techniques discussed in enough detail to be immediately useful in new-project situations. Practicing project managers will find the text to be a valuable guide and reference when dealing with typical problems that arise in the course of a project. Managers will also find the text useful in understanding the role of projects in the missions of their organizations. Analysts will find the text useful in helping to explain the data needed for project implementation as well as the operations of inherited or purchased software.

Members of the Project Management Institute will find the text is well structured to meet the needs of those wishing to prepare for PMP (Project Management Professional) or CAPM (Certified Associate in Project Management) certification exams. The text has in-depth coverage of the most critical topics found in PMI's *Project Management Body of Knowledge* (PMBOK). People at all levels in the organization assigned to work on projects will find the text useful not only in providing them with a rationale for the use of project management processes but also because of the insights they will gain into how to enhance their contributions to project success.

Our emphasis is not only on how the management process works but also, and more importantly, on *why* it works. The concepts, principles, and techniques are universally

applicable. That is, the text does not specialize by industry type or project scope. Instead, the text is written for the individual who will be required to manage a variety of projects in a variety of organizational settings. In the case of some small projects, a few of the steps of the techniques can be omitted, but the conceptual framework applies to all organizations in which projects are important to survival. The approach can be used in pure project organizations such as construction, research organizations, and engineering consultancy firms. At the same time, this approach will benefit organizations that carry out many small projects while the daily effort of delivering products or services continues.

Content

In this and other editions we continue to try to resist the forces that engender scope creep and focus only on essential tools and concepts that are being used in the real world. We have been guided by feedback from reviewers, practitioners, teachers, and students. Some changes are minor and incremental, designed to clarify and reduce confusion. Other changes are significant. They represent new developments in the field or better ways of teaching project management principles. Below are major changes to the eighth edition.

All material has been reviewed and revised based on the latest edition of *Project Management Body of Knowledge* (PMBOK), Sixth Edition, 2017.

Discussion questions for most Snapshots from Practice are now at the end of each chapter.

Many of the Snapshots from Practice have been expanded to more fully cover the examples.

Agile Project Management is introduced in Chapter 1 and discussed when appropriate in subsequent chapters, with Chapter 15 providing a more complete coverage of the methodology.

A new set of exercises have been developed for Chapter 5.

New student exercises and cases have been added to chapters.

The Snapshot from Practice boxes feature a number of new examples of project management in action.

The Instructor's Manual contains a listing of current YouTube videos that correspond to key concepts and Snapshots from Practice.

Overall the text addresses the major questions and challenges the authors have encountered over their 60 combined years of teaching project management and consulting with practicing project managers in domestic and foreign environments. These questions include the following: How should projects be prioritized? What factors contribute to project failure or success? How do project managers orchestrate the complex network of relationships involving vendors, subcontractors, project team members, senior management,

functional managers, and customers that affect project success? What project management system can be set up to gain some measure of control? How are projects managed when the customers are not sure what they want? How do project managers work with people from foreign cultures?

Project managers must deal with all these concerns to be effective. All of these issues and problems represent linkages to a socio-technical project management perspective. The chapter content of the text has been placed within an overall framework that integrates these topics in a holistic manner. Cases and snapshots are included from the experiences of practicing managers. The future for project managers is exciting. Careers will be built on successfully managing projects.

Student Learning Aids

Student resources include study outlines, online quizzes, PowerPoint slides, videos, Microsoft Project Video Tutorials, and web links. These can be found in Connect.

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Acknowledgments

We would like to thank Scott Bailey for building the end-of-chapter exercises for Connect; Pinyarat Sirisomboonsuk for revising the PowerPoint slides; Ronny Richardson for updating the Instructor's Manual; Angelo Serra for updating the Test Bank; and Pinyarat Sirisomboonsuk for providing new Snapshot from Practice questions.

Next, it is important to note that the text includes contributions from numerous students, colleagues, friends, and managers gleaned from professional conversations. We want them to know we sincerely appreciate their counsel and suggestions. Almost every exercise, case, and example in the text is drawn from a real-world project. Special thanks to managers who graciously shared their current project as ideas for exercises, subjects for cases, and examples for the text. John A. Drexler, Jim Moran, John Sloan, Pat Taylor, and John Wold, whose work is printed, are gratefully acknowledged. Special gratitude is due Robert Breitbarth of Interact Management, who shared invaluable insights on prioritizing projects. University students and managers deserve special accolades for identifying problems with earlier drafts of the text and exercises.

We are indebted to the reviewers of past editions who shared our commitment to elevating the instruction of project management. We thank you for your many thoughtful suggestions and for making our book better. Of course, we accept responsibility for the final version of the text.

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Finally, we want to extend our thanks to all the people at McGraw-Hill Education for their efforts and support. First, we would like to thank Noelle Bathurst and Sarah Wood, for providing editorial direction, guidance, and management of the book’s development for the eighth edition. And we would also like to thank Sandy Wille, Sandy Ludovissy, Egzon Shaqiri, Beth Cray, and Angela Norris for managing the final production, design, supplement, and media phases of the eighth edition.

Erik W. Larson

Clifford F. Gray

Guided Tour

Established Learning Objectives

Learning objectives are listed both at the beginning of each chapter and are called out as marginal elements throughout the narrative in each chapter.

2.1 Why Project Managers Need to Understand Strategy

LO 2-1
Explain why it is important for project managers to understand their organization's strategy.

Project management historically has been preoccupied solely with the planning and execution of projects. Strategy was considered to be under the purview of senior management. This is old-school thinking. New-school thinking recognizes that project management is at the apex of strategy and operations. Shenhar speaks to this issue when he states, "It is time to expand the traditional role of the project manager from an operational to a more strategic perspective. In the modern evolving organization, project managers will be focused on business aspects, and their role will expand from getting the job done to achieving the business results and winning in the marketplace."¹

There are two main reasons project managers need to understand their organization's mission and strategy. The first reason is so they can make appropriate decisions and adjustments. For example, how a project manager would respond to a suggestion to modify the design of a product to enhance performance will vary depending upon whether his company strives to be a product leader through innovation or to achieve operational excellence through low-cost solutions. Similarly, how a project manager would respond to delays may vary depending upon strateg

LEARNING OBJECTIVES

After reading this chapter you should be able to:

- 2-1 Explain why it is important for project managers to understand their organization's strategy.
- 2-2 Identify the significant role projects contribute to the strategic direction of the organization.
- 2-3 Understand the need for a project priority system.
- 2-4 Distinguish among three kinds of projects.
- 2-5 Describe how the phase gate model applies to project management.
- 2-6 Apply financial and nonfinancial criteria to assess the value of projects.
- 2-7 Understand how multi-criteria models can be used to select projects.
- 2-8 Apply an objective priority system to project selection.

OUTLINE

- 2.1 Why Project Managers Need to Understand Strategy
- 2.2 The Strategic Management Process: An Overview
- 2.3 The Need for a Project Priority System
- 2.4 Project Classification
- 2.5 Phase Gate Model
- 2.6 Selection Criteria
- 2.7 Applying a Selection Model
- 2.8 Managing the Portfolio System

Summary

End-of-Chapter Content

Both static and algorithmic end-of-chapter content, including Review Questions and Exercises, are assignable in Connect.

SmartBook

The SmartBook has been updated with new highlights and probes for optimal student learning.

Snapshots

The Snapshot from Practice boxes have been updated to include a number of new examples of project management in action. New discussion questions based on the Snapshots have been added to the end-of-chapter material and are assignable in Connect.



On entering the 24-hour Googleplex located in Mountain View, California, you feel that you are walking through a new-age college campus rather than the corporate office of a billion-dollar business. The interconnected low-rise buildings with colorful, glass-enclosed offices feature upscale trappings—free gourmet meals three times a day, free use of an outdoor wave pool, indoor gym and large child care facility, private shuttle bus service to and from San Francisco and other residential areas—that are the envy of workers across the Bay area. These perks and others reflect Google's culture of keeping people happy and thinking in unconventional ways.

The importance of corporate culture is no more evident than in the fact that the head of Human Resources, Stacy Snyders Sullivan, also has the title of chief culture officer. Her task is to try to preserve the innovative culture of a start-up as Google quickly evolves into a mammoth international corporation. Sullivan characterizes



Jed Bliland Images

Because Google co-founder Sergey Brin once estimated that it took seven minutes to walk across the Google campus. Everybody stands to make sure no one gets too comfortable and no time is wasted during the rapid-fire update. As one manager noted, "The whole concept of the stand-up is to talk through what everyone's doing, so if someone is working on what you're working on, you

New and Updated Cases

Included at the end of each chapter are between one and five cases that demonstrate key ideas from the text and help students understand how project management comes into play in the real world. Cases have been reviewed and updated across the eighth edition.

Instructor and Student Resources

Instructors and students can access all of the supplementary resources for the eighth edition within Connect or directly at www.mhhe.com/larson8e.

Note to Student

You will find the content of this text highly practical, relevant, and current. The concepts discussed are relatively simple and intuitive. As you study each chapter we suggest you try to grasp not only how things work but also why things work. You are encouraged to use the text as a handbook as you move through the three levels of competency:

I know.

I can do.

I can adapt to new situations.

The field of project management is growing in importance and at an exponential rate. It is nearly impossible to imagine a future management career that does not include management of projects. Resumes of managers will soon be primarily a description of their participation in and contributions to projects.

Good luck on your journey through the text and on your future projects.

Chapter-by-Chapter Revisions for the Eighth Edition

Chapter 1: Modern Project Management

New Snapshot: Project Management in Action 2019.

New Snapshot: *London Calling: Seattle Seahawks versus Oakland Raiders*.

New case: *A Day in the Life—2019*.

New section on Agile Project Management.

Chapter 2: Organization Strategy and Project Selection

Chapter text refined and streamlined.

New section describing the phase gate model for selecting projects.

Chapter 3: Organization: Structure and Culture

New section on project management offices (PMOs).

New Snapshot: *2018 PMO of the Year*.

Chapter 4: Defining the Project

Consistent with PMBOK 6th edition, the scope checklist includes product scope description, justification/business case, and acceptance criteria.

Discussion of scope creep expanded.

New case: *Celebration of Color 5K*.

Chapter 5: Estimating Project Times and Costs

Snapshot from Practice on reducing estimating errors incorporated in the text.

Snapshot from Practice: *London 2012 Olympics* expanded.

A new set of six exercises.

Chapter 6: Developing a Project Schedule

Chapter 6 retitled *Developing a Project Schedule* to better reflect content.

New case: *Ventura Baseball Stadium*.

Chapter 7: Managing Risk

New Snapshot: *Terminal Five—London Heathrow Airport*.

Consistent with PMBOK 6e, “escalate” added to risk and opportunity responses and “budget” reserves replaced by “contingency” reserves.

Chapter 8 Scheduling Resources and Costs

Two new exercises.

New case: *Tham Luang Cave Rescue*.

Chapter 9: Reducing Project Duration

Snapshot 9.1: *Smartphone Wars* updated.

New case: *Ventura Baseball Stadium (B)*.

Chapter 10: Being an Effective Project Manager

Effective Communicator has replaced Skillful Politician as one of the 8 traits associated with being an effective project manager.

Research Highlight 10.1: *Give and Take* expanded.

Chapter 11: Managing Project Teams

A new review question and exercises added.

Chapter 12: Outsourcing: Managing Interorganizational Relations

Snapshot 12.4: *U.S. Department of Defense Value Engineering Awards* updated.

New exercise added.

Chapter 13 Progress and Performance Measurement and Evaluation

Expanded discussion of the need for earned value management.

New case: *Ventura Stadium Status Report*.

Chapter 14: Project Closure

New case: *Halo for Heroes II*.

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Chapter 15: Agile Project Management

Chapter revised to include discussions of Extreme programming, Kanban, and hybrid models.

New Snapshot: *League of Legends*.

New case: *Graham Nash*.

Chapter 16: International Projects

Snapshots from Practice: *The Filming of Apocalypse Now* and *River of Doubt* expanded.

New case: *Mr. Wui Goes to America*.

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CHAPTER

ONE

1

Modern Project Management

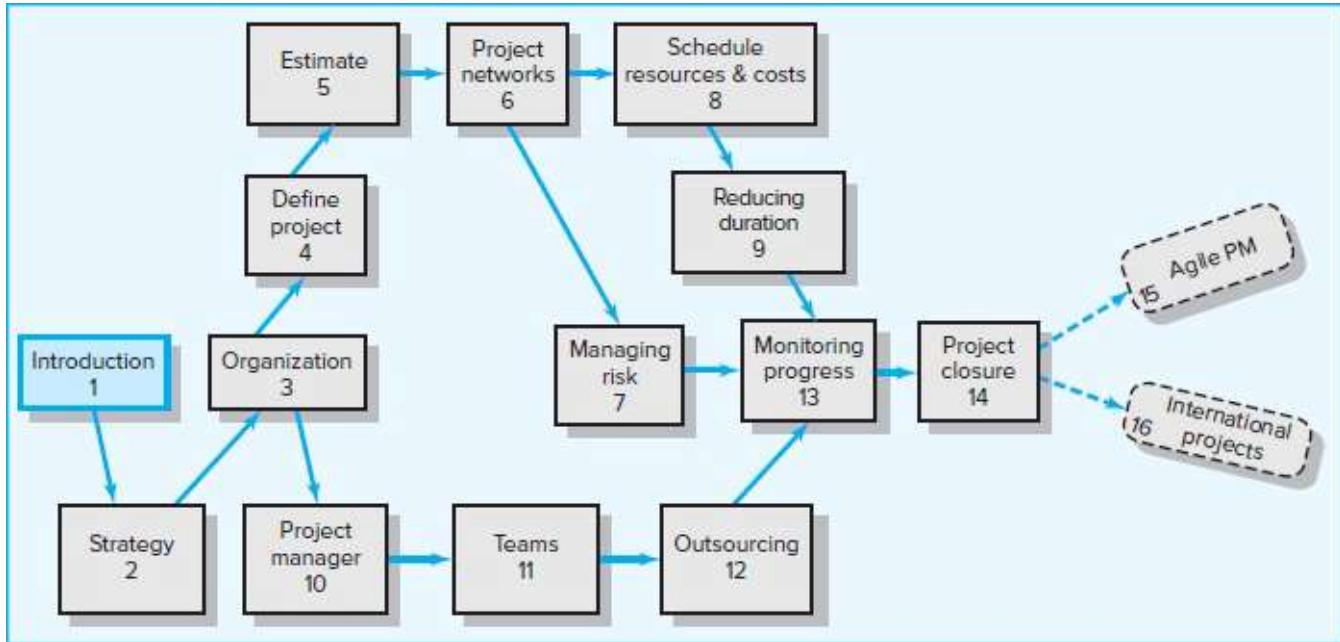
LEARNING OBJECTIVES

After reading this chapter you should be able to:

- 1-1 Understand why project management (PM) is crucial in today's world.
- 1-2 Distinguish a project from routine operations.
- 1-3 Identify the different stages of a project life cycle.
- 1-4 Describe how Agile PM is different from traditional PM.
- 1-5 Understand that managing projects involves balancing the technical and sociocultural dimensions of the project.

OUTLINE

- 1.1 What Is a Project?
 - 1.2 Agile Project Management
 - 1.3 Current Drivers of Project Management
 - 1.4 Project Management Today: A Socio-Technical Approach
- Summary
- Text Overview



All of mankind's greatest accomplishments—from building the great pyramids to discovering a cure for polio to putting a man on the moon—began as a project.

LO 1-1

Understand why project management (PM) is crucial in today's world.

This is a good time to be reading a book about project management. Business leaders and experts have recognized that project management is critical to sustainable economic growth. New jobs and competitive advantage are achieved by constant innovation, developing new products and services, and improving both productivity and quality of work. This is the world of project management. Project management provides people with a powerful set of tools that improves their ability to plan, implement, and manage activities to accomplish specific objectives. But project management is more than just a set of tools; it is a results-oriented management style that places a premium on building collaborative relationships among a diverse cast of characters. Exciting opportunities await people skilled in project management.

The project approach has long been the style of doing business in the construction industry, U.S. Department of Defense contracts, and Hollywood, as well as big consulting firms. Now project management has spread to all avenues of work. Today, project page 4 teams carry out everything from port expansions to hospital restructuring to upgrading information systems. They are creating next-generation fuel-efficient vehicles, developing sustainable sources of energy, and exploring the farthest reaches of outer space. The impact of project management is most profound in high-tech industries, where the new

folk heroes are young professionals whose Herculean efforts lead to the constant flow of new hardware and software products.

Project management is not limited to the private sector. Project management is also a vehicle for doing good deeds and solving social problems. Endeavors such as providing emergency aid to areas hit by natural disasters, devising a strategy for reducing crime and drug abuse within a city, or organizing a community effort to renovate a public playground would and do benefit from the application of modern project management techniques.

Perhaps the best indicator of demand for project management can be seen in the rapid expansion of the Project Management Institute (PMI), a professional organization for project managers. PMI membership has grown from 93,000 in 2002 to more than 565,000 in 2019. See Snapshot from Practice 1.1: The Project Management Institute for information regarding professional certification in project management.

It's nearly impossible to pick up a newspaper or business periodical and not find something about projects. This is no surprise! Approximately \$2.5 trillion (about 25 percent of the U.S. gross national product) is spent on projects each year in the United States alone. Other countries are increasingly spending more on projects. Millions of people around the world consider project management the major task in their profession.

SNAPSHOT FROM PRACTICE 1.1

The Project Management Institute*



The Project Management Institute (PMI) was founded in 1969 as an international society for project managers. Today PMI has members from more than 180 countries and more than 565,000 members. PMI professionals come from virtually every major industry, including aerospace, automotive, business management, construction, engineering, financial services, information technology, pharmaceuticals, healthcare, and telecommunications.

PMI provides certification as a **Project Management Professional (PMP)**—someone who has documented sufficient project experience, agreed to follow the PMI code of professional conduct, and demonstrated mastery of the field of project management by passing a comprehensive examination based on the Project Management Body of Knowledge (PMBOK), which is in its 6th edition. The number of people earning PMP status has grown dramatically in recent years. In 1996 there were fewer than 3,000 certified Project Management Professionals. By 2019 there were more than 910,000 PMPs.

Just as the CPA exam is a standard for accountants, passing the PMP exam may become the standard for project managers. Some companies are requiring that all their project managers be PMP certified. Moreover, many job postings are restricted to PMPs. Job seekers, in general, are finding that being PMP certified is an advantage in the marketplace.

PMI added a certification as a *Certified Associate in Project Management (CAPM)*. CAPM is designed for project team members and entry-level project managers, as well as qualified undergraduate and graduate students who want a credential to recognize their mastery of the project management body of knowledge. CAPM does not require the extensive project management experience associated with the PMP. In fact, students often qualify for taking the CAPM exam by taking a course on project management. For more details on PMP and CAPM, google PMI to find the current website for the Project Management Institute.

This text provides a solid foundation for passing either exam. However, we personally found it necessary

to study a good PMP/CAPM exam “prep book” to pass the exam. This is recommended, given the format and nature of the exam.

*PMI Today, March 2019, p. 4.

page 5

Most of the people who excel at managing projects never have the title of project manager. They include accountants, lawyers, administrators, scientists, contractors, coaches, public health officials, teachers, and community advocates whose success depends upon being able to lead and manage project work. For some, the very nature of their work is project driven. Projects may be cases for lawyers, audits for accountants, events for artists, and renovations for contractors. For others, projects may be a small but critical part of their work. For example, a high school teacher who teaches four classes a day is responsible for coaching a group of students to compete in a national debate competition. A store manager who oversees daily operations is charged with developing an employee retention program. A sales account executive is given the additional assignment of team lead to launch daily deals into a new city. A public health official who manages a clinic is also responsible for organizing a Homeless Youth Connect event. For these and others, project management is not a title but a critical job requirement. It is hard to think of a profession or a career path that would not benefit from being good at managing projects.

Not only is project management critical to most careers, but also the skill set is transferable across most businesses and professions. Project management fundamentals are universal. The same project management methodology that is used to develop a new product can be adapted to create new services, organize events, refurbish aging operations, and so forth. In a world where it is estimated that each person is likely to experience three to four career changes, managing projects is a talent worthy of development.

The significance of project management can also be seen in the classroom. Twenty years ago major universities offered one or two classes in project management, primarily for engineers. Today most universities offer multiple sections of project management page 6 classes, with the core group of engineers being supplemented by business students majoring in marketing, management information systems (MIS), and finance, as well as students from other disciplines such as oceanography, health sciences, computer sciences, and liberal arts. These students are finding that their exposure to project management is providing them with distinct advantages when it comes time to look for jobs. More and more employers are looking for graduates with project management skills. See Snapshot from Practice 1.2: A Dozen Examples of Projects Given to Recent College Graduates for examples of projects given to recent college graduates. The logical starting point for developing these skills is understanding the uniqueness of a project and of project managers.

SNAPSHOT FROM PRACTICE 1.2

A Dozen Examples of Projects Given to Recent College Graduates



1. **Business information:** Join a project team charged with installing a new data security system.
2. **Physical education:** Design and develop a new fitness program for senior citizens that combines principles of yoga and aerobics.
3. **Marketing:** Execute a sales program for a new home air purifier.
4. **Industrial engineering:** Manage a team to create a value chain report for every aspect of a key product from design to customer delivery.
5. **Chemistry:** Develop a quality control program for an organization's drug production facilities.
6. **Management:** Implement a new store layout design.
7. **Pre-med neurology student:** Join a project team linking mind mapping to an imbedded prosthetic that will allow blind people to function near normally.
8. **Sports communication:** Join the athletics staff at Montana State University to promote women's basketball.
9. **Systems engineer:** Become a project team member of a project to develop data mining of medical papers and studies related to drug efficacy.
10. **Accounting:** Work on an audit of a major client.
11. **Public health:** Research and design a medical marijuana educational program.
12. **English:** Create a web-based user manual for a new electronics product.



John Fedele/Blend Images LLC

1.1 What Is a Project?



Distinguish a project from routine operations.

What do the following headlines have in common?

Millions Watch World Cup Finals
Citywide WiFi System Set to Go Live
Hospitals Respond to New Healthcare Reforms
Apple's New iPhone Hits the Market
City Receives Stimulus Funds to Expand Light Rail System

All of these events are projects.



The Project Management Institute provides the following definition of a project:

A **project** is a temporary endeavor undertaken to create a unique product, service, or result.

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Like most organizational efforts, the major goal of a project is to satisfy a customer's need. Beyond this fundamental similarity, the characteristics of a project help differentiate it from other endeavors of the organization. The major characteristics of a project are as follows:

- An established objective.
- A defined lifespan with a beginning and an end.
- Usually, the involvement of several departments and professionals.
- Typically, doing something that has never been done before.
- Specific time, cost, and performance requirements.

First, projects have a defined objective—whether it is constructing a 12-story apartment complex by January 1 or releasing version 2.0 of a specific software package as quickly as possible. This singular purpose is often lacking in daily organizational life in which workers perform repetitive operations each day.

Second, because there is a specified objective, projects have a defined endpoint, which is contrary to the ongoing duties and responsibilities of traditional jobs. Instead of staying in one job, individuals often move from project to project, working with different groups of people. For example, after helping to install a security system, an IT engineer may be assigned to develop a database for a different client.

Third, unlike much organizational work that is segmented according to functional specialty, projects typically require the combined efforts of a variety of specialists. Instead of working in separate offices under separate managers, project participants, whether they be engineers, financial analysts, marketing professionals, or quality control specialists, work together under the guidance of a project manager to complete a project.

The fourth characteristic of a project is that it is nonroutine and has some unique elements. This is not an either/or issue but a matter of degree. Obviously, accomplishing something that has never been done before, such as building an electric automobile or landing two mechanical rovers on Mars, requires solving previously unsolved problems and using breakthrough technology. On the other hand, even basic construction projects that involve established sets of routines and procedures require some degree of customization that makes them unique. See Snapshot from Practice 1.3: London Calling: Seattle Seahawks versus Oakland Raiders for an unusual change in routine.

Finally, specific time, cost, and performance requirements bind projects. Projects are evaluated according to accomplishment, cost, and time spent. These triple constraints impose a higher degree of accountability than typically found in most jobs. These three also highlight one of the primary functions of project management, which is balancing the trade-offs among time, cost, and performance while ultimately satisfying the customer.

What a Project Is Not

Projects should not be confused with everyday work. A project is not routine, repetitive work! Ordinary daily work typically requires doing the same or similar work over and over, while a project is done only once; a new product or service exists when the project is completed. Examine the list in Table 1.1 that compares routine, repetitive work and projects. Recognizing the difference is important because too often resources can be used up on daily operations, which may not contribute to longer-range organization strategies that require innovative new products.

TABLE 1.1 Comparison of Routine Work with Projects

Routine, Repetitive Work	Projects
Holding class notes	Writing a term paper
Daily entering sales receipts into the	Setting up a sales kiosk for a professional accounting meeting

accounting ledger	
esponding to a supply-chain request	Developing a supply-chain information system
acticing scales on the piano	Writing a new piano piece
outine manufacture of an Apple iPod	Designing an iPod that is approximately 2×4 inches, interfaces with PC, and stores 10,000 songs
taching tags on a manufactured product	Wire-tag projects for GE and Walmart

Program versus Project

In practice the terms *project* and *program* cause confusion. They are often used synonymously. A **program** is a group of related projects designed to accomplish a common goal over an extended period of time. Each project within a program has a project page 8 manager. The major differences lie in scale and time span.

SNAPSHOT FROM PRACTICE 1.3

London Calling: Seattle Seahawks versus Oakland Raiders*



On October 7, 2018, the National Football League (NFL) Seattle Seahawks walked off the field having played their best game of the season, only to fall short to the undefeated Los Angeles Rams, 33–31. Next on the schedule was an away game with the Oakland Raiders. Instead of heading about 670 miles south to Oakland, California, however, the Seahawks flew nearly 5,000 miles to London, England, eight time zones away, to spread the gospel of the NFL.

Sending an NFL team overseas during the season is no easy task. Advanced planning is critical. Players need passports. Accommodations have to be found and transportation arranged. The equipment staff sends supplies months in advance. All total, the Seahawks ended up shipping 21,000 pounds of gear and products, including 1,150 rolls of athletic tape, 2 tons of medical supplies, 350 power adapters, and 500 pairs of shoes!

Two of the biggest challenges the “Hawks” faced were jet lag and distractions. Many of the players and staff had never been overseas. London would be a strange, exciting experience. With this in mind, head coach Pete Carroll decided to fly early to London on Wednesday, October 10. This would allow players to better adjust their sleep patterns while providing some free time to explore London.

WEDNESDAY, OCTOBER 10

The Seahawks boarded a chartered jet that included 45 sleeping pods in first class for the veteran players. Coach Carroll and his staff sat in the first row of business class. Rookies and members of the practice squad sat behind them. Regardless of class, everyone got the same menu: beef filet, Cajun chicken, or herb-roasted salmon.

Typically, on flights to the east, Sam Ramsden, the team’s director of health and player performance, tells players to stay awake so they will be tired and sleep well when they arrive. For the London trip, though, Ramsden reversed the program: he told players to sleep as much as possible on the flight so when they arrived in London on Thursday afternoon, they would have enough energy to stay up until 9 or 10 p.m. and then get a full night’s rest. “We try to protect their circadian rhythms as much as possible,” Ramsden said. Circadian rhythm (also known as body clock) is a natural, internal system that’s designed to regulate feelings of sleepiness and wakefulness over a 24-hour period.

Ramsden’s staff gave each player special sleep kits that included blackout eye masks. Some players took

melatonin or Ambien, while others used headphones that played the sounds of wind and rushing water to induce sleep.

THURSDAY, OCTOBER 11

The Seahawks landed on Thursday about 1:30 p.m. (5:30 a.m. Seattle time). Buses took them to a golf course resort north of London.

At night, the players let off some steam at a Topgolf facility. Here organized into groups of four, they tried to hit golf balls into giant holes to score points. Jeers rang out every time they were wildly off target.

FRIDAY, OCTOBER 12

After several hours of meetings and a practice, players were free to explore London. They scattered to the various corners of London. On returning to the resort before the 11:00 p.m. curfew, a few of the players complained about the warm English beer.

The Oakland Raiders arrived in London at 1:00 p.m., 53 hours before game time.

SATURDAY, OCTOBER 13

Coach Carroll likes to take his players to the stadium the day before a road game so they can visualize conditions ahead of time. At 1:30 p.m., the Seahawks drove to Wembley, where they saw their fully Seahawk-equipped locker room and the field, the most famous soccer pitch in England. The field appeared slick, so the equipment manager had longer screw-in cleats available for the players. The Hawks returned to their resort for their normal pregame evening routine.

GAMEDAY, OCTOBER 14

During the course of the game, the TV announcers commented several times that the Raiders seemed sluggish, while the Seahawks were sharp and focused. The Seahawks dominated the game, winning 27–3.



David Lee/Shutterstock

*Bell, G., "Seahawks Arrive in London. Why Twins Shaquill and Shaquem Griffin Did Not Travel Here Equally," thenewstribune.com, October 11, 2018. Belson, K., "Four Thousand Miles for the W," nytimes.com, October 20, 2018; Accessed 10/22/18.

Program management is the process of *managing* a group of ongoing, interdependent, related *projects* in a coordinated way to achieve strategic objectives. For example, a pharmaceutical organization could have a program for curing cancer. The cancer program includes and coordinates *all* cancer projects that continue over an extended time horizon (Gray, 2011). Coordinating all cancer projects under the oversight of a cancer team provides benefits not available from managing them individually. This cancer team also oversees the selection and prioritizing of cancer projects that are included in their special "Cancer"

portfolio. Although each project retains its own goals and scope, the project manager and team are also motivated by the higher program goal. Program goals are closely related to broad strategic organization goals.

The Project Life Cycle

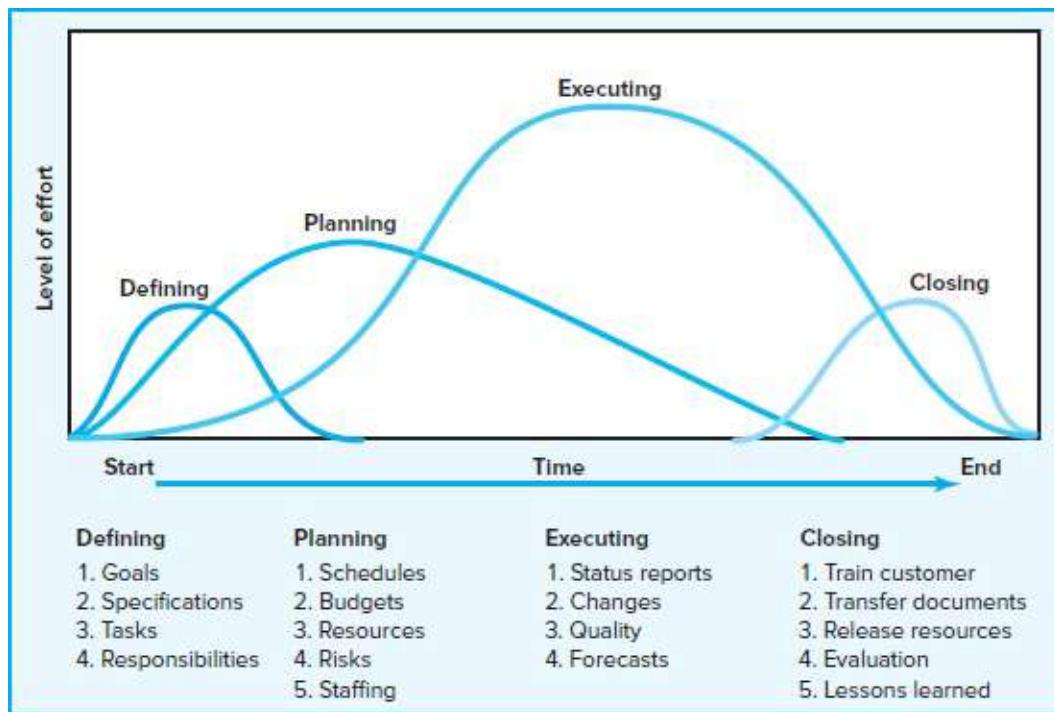
LO 1-3

Identify the different stages of a project life cycle.

Another way of illustrating the unique nature of project work is in terms of the **project life cycle**. The life cycle recognizes that projects have a limited lifespan and that there are predictable changes in level of effort and focus over the life of the project. There are a number of different life-cycle models in project management literature. Many are unique to a specific industry or type of project. For example, a new-software development project may consist of five phases: definition, design, code, integration/test, and maintenance. A generic cycle is depicted in Figure 1.1.

FIGURE 1.1

Project Life Cycle



The project life cycle typically passes sequentially through four stages: defining, planning, executing, and closing. The starting point begins the moment the project is given the go-ahead. Project effort starts slowly, builds to a peak, and then declines to delivery of the project to the customer.

Defining stage. Specifications of the project are defined; project objectives are

established; teams are formed; major responsibilities are assigned.

Planning stage. The level of effort increases, and plans are developed to determine what the project will entail, when it will be scheduled, whom it will benefit, what quality level should be maintained, and what the budget will be.

Executing stage. A major portion of the project work takes place—both physical and mental. The physical product is produced (e.g., a bridge, a report, a software program). Time, cost, and specification measures are used for control. Is the project on schedule, on budget, and meeting specifications? What are the forecasts of each of these measures? What revisions/changes are necessary?

Closing stage. Closing includes three activities: delivering the project product to the customer, redeploying project resources, and conducting a post-project review. [page 10](#) Delivery of the project might include customer training and transferring documents. Redeployment usually involves releasing project equipment/materials to other projects and finding new assignments for team members. Post-project reviews include not only assessing performance but also capturing lessons learned.

In practice, the project life cycle is used by some project groups to depict the timing of major tasks over the life of the project. For example, the design team might plan a major commitment of resources in the defining stage, while the quality team would expect their major effort to increase in the latter stages of the project life cycle. Because most organizations have a portfolio of projects going on concurrently, each at a different stage of each project's life cycle, careful planning and management at the organization and project levels are imperative.

The Project Manager

At first glance project managers perform the same functions as other managers. That is, they plan, schedule, motivate, and control. However, what makes them unique is that they manage temporary, nonrepetitive activities to complete a fixed-life project. Unlike functional managers, who take over existing operations, project managers create a project team and organization where none existed before. They must decide what and how things should be done instead of simply managing set processes. They must meet the challenges of each phase of the project life cycle and even oversee the dissolution of their operation when the project is completed.

Project managers must work with a diverse troupe of characters to complete projects. They are typically the direct link to the customer and must manage the tension between customer expectations and what is feasible and reasonable. Project managers [page 11](#) provide direction, coordination, and integration to the project team, which is often made up of part-time participants loyal to their functional departments. They often must work with a cadre of outsiders—vendors, suppliers, and subcontractors—who do not necessarily share their project allegiance.

Project managers are ultimately responsible for performance (frequently with too little authority). They must ensure that appropriate trade-offs are made among the time, cost, and