CHAPTER 2

Project Lifecycle, Methodologies, and Standards

There are a huge number of different project management methodologies being used in organizations today. Some of the methodologies are homegrown, "proprietary" processes, and some are more widely used and available in the public domain. Project management certifications are available in some of the methodologies, while others are less formalized. It is not hugely important which methodology you use to manage your project, as long as you are using a documented process. The larger and more complex the project, the more defined and detailed the process needs to be in order for it to be effectively managed.

In addition to project methodologies, there are process frameworks, such as *PMBOK® Guide* and *PRINCE2*, which add structure to the methodologies. Process frameworks do not replace methodologies; they work with them. *PMBOK® Guide* and *PRINCE2* are explained in more detail later in this chapter, and each has a dedicated chapter later in this book.

No matter what methodology you use to manage your project, you will need an understanding of the *project lifecycle*. As with the methodologies, you will see variations in the phases, and the names of the phases, in the project lifecycle, but they are all fundamentally similar.

Throughout each of the project lifecycle phases, the project manager performs Project Direction activities. These activities include management of the standard, methodology, project, people, and communication.

Project Lifecycle

The project lifecycle describes the phases or steps you will complete throughout the project from the initial concept through to project closure. The lifecycle divides a project into six very distinct phases (Figure 2.1):

1. Planning
2. Design
3. Development
4. Integration (including testing)
5. Deployment
6. Post-Deployment

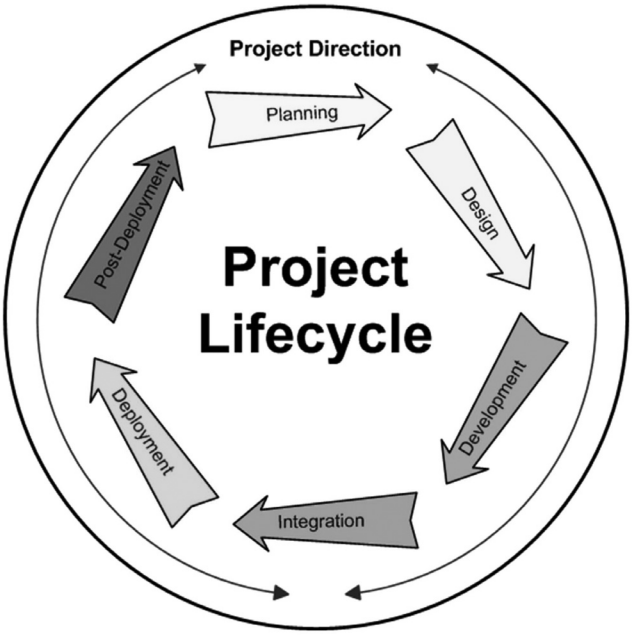

Figure 2.1: The Project Lifecycle

All six stages are critical to the success of a project. Trying to save time by skipping a phase or reducing the time needed to complete it successfully will result in either a substandard product or a completely failed project.

Some of the tasks included in the planning phase are not included in project lifecycles found in other methodologies or standards. This is because they are

considered to be "pre-project" work—work carried out prior to final project approval. In this book, I consider everything to be part of the project lifecycle from the moment an idea or concept is presented for consideration right through to the tasks that occur after the project has been completed and handed off. Pre-project, this includes the business documentation created prior to a project manager being assigned to the project. Post-project, it includes such things as operational support documentation and the process for disbanding the project team. Incorporating all project work in the lifecycle facilitates the use of consistent processes throughout the project and ensures smooth handoffs between business management, project management, and operations management. It also ensures that if processes are changed on the front end of the project, those changes must flow through to the rest of the project lifecycle without causing inconsistencies or conflicts.

There are quite a few tasks that occur after the project has been completed, and these tasks are as important to the lifecycle as the pre-project tasks. In addition to establishing standard practices for closing the project, it is important to ensure that there is some period of support available after deployment. It is not often that a project is delivered to the client free of any defects and without the need for any operations support, technical support, engineering involvement, or communication after the project handoff. To guarantee client satisfaction, there must be a plan in place for managing any post-deployment issues.

It is good practice to document your project lifecycle or methodology before you start your project. In most companies, this lifecycle is the same for every project, so it may well be documented as part of the company's processes and procedures. If it is an undocumented process or if there is no standard process in place, then this is the time for you to document the process you will use for your project. Everyone on the project team should understand the process and be aware of what phase you are in as you progress through the lifecycle.

The Project Lifecycle Phases

The project lifecycle phases in this book comprise the following high-level tasks:

Planning Phase

- Create and Present Project Concept
- Obtain Concept Approval
- Create Project Proposal

- Obtain Proposal Approval
- Create Project Charter
- Obtain Project Approval
- Create the Project Plan
- Create the Project Approach
- Finalize the Budget

Design Phase

- Design the Architecture
- Design the Product and the Features
- Create Specifications and Task Lists
- Finalize the Project Schedule

Development Phase

- Build the Product
- Analyze and Document Project Statistics
- Conduct Status and Project Review Meetings
- Verify and Document Feature Complete

Integration Phase

- Integrate Features into the Final "Product"
- Perform Integration and End-to-End Testing
- Perform Stabilization and Optimization Tasks
- Verify and Document Code Complete

Deployment Phase

- Finalize Operations Documents
- Conduct Training
- Finalize Deployment and Project Acceptance
- Verify and Document Project Handoff

Post-Deployment Phase

- Transfer Control of the "Product" to the Operations Team
- Conduct Lessons Learned Meeting
- Perform Project Closure Tasks
- Disband the Project Team
- Celebrate Success!

This high-level overview of the project lifecycle phases is contained in the Project Lifecycle PowerPoint presentation included in the download file for this book.

Planning

The planning phase starts with the project concept and incorporates all the meetings, research, and reporting that is necessary to get the project approved. As a project manager, you may not be involved in all the pre-project planning, but you will be involved in a substantial amount of planning before your team starts developing/building any products. High-level estimates, selecting your team members, project definition, and kickoff meetings, for instance, are all part of the planning phase. The planning phase is complete after you have the Project Charter, Project Plan, and Project Approach completed, reviewed, and approved. The Project Charter describes what the project is, the Project Plan describes how it will be implemented, and the Project Approach describes the processes that will be used during the project lifecycle.

During the planning phase, it is extremely important to get client sign-off on all deliverables. Any changes must go through a pre-defined change control process. This ensures that both the project team and the client are on the same page and that there will be no misunderstandings about deliverables later on down the road. Verbal agreements are not worth anything. Make sure everything is in writing.

So, how do you get the planning phase completed? This is one of the most difficult phases of the project. You need to get it right the first time, as your whole project will be scheduled and built in accordance with what you define and document in this phase. This is where your team builds the road map that will get the project from here to closure.

It is critical that the functional and technical requirements are documented fully and completely. The Functional and Technical Requirements Documents will serve as the template for the design specifications. If the project is complex and comprises multiple features/components, there should be Functional and Technical Requirements Documents for each feature. If the project is small, one Technical Requirements Document will be sufficient.

The size, complexity, and scope of the project will determine how much detail is needed for the Project Plan and the supporting documentation. The time spent on

putting the plan together should be proportional to the size and complexity of the project. The Project Charter, Project Plan, and Project Approach will be the road map used by the project team to guide them to project completion. The project manager will create a high-level schedule for the team.

Design

The design phase of the project is an area that is often neglected, at least to some extent. I have seen teams who implement their code and then write the design specification after the fact. This is not going to result in consistently high-quality, re-usable, and extensible code and systems. The starting point for writing a Technical Design & Specification Document is to review the Functional and Technical Requirements Documents. If the project is complex and comprises multiple features/components, there will be Functional and Technical Requirements Documents for each feature. There should be both a Network and System Architecture & Design Document and a Software System Architecture & Design Document, which are usually documented by the lead engineer or architect. The Architecture documents will show all the features and components of the product or system and how they integrate with each other to constitute the final product. If you have multiple features in your product, you will need multiple design specifications. Either the lead/architect will write the designs, or each feature will be assigned to an engineer who will use the Architecture documents as a guide when creating the design specification. The design specifications often require that the engineer write test code or build a mini-prototype to verify that the design will work. The design must include details on how the feature or component will be tested both by the developer (unit testing) and by the Quality Assurance (QA) group (integration testing).

The feature designer, technical lead, and project manager use the Technical and Functional Design Specification Documents to break down each feature into tasks and subtasks. Any task that takes more than a week or two should be broken down into subtasks. These lists of tasks are called the Detailed Task Lists. The Detailed Task Lists identify dependencies between tasks that enable the project manager to schedule them appropriately. The Detailed Task Lists also include Final Estimates. The project manager needs to review the Final Estimates to ensure that the overall project can be completed within the proposed timeline and budget. Generally, you will find that some tasks come in under estimate and some over estimate, but as long as you have left some buffer time to allow for this, you should be pretty close to the estimates created during the planning phase. If not, then this is the time

to review the Detailed Task Lists with your team, and possibly your client, to make decisions about how to proceed.

The design phase of a feature usually takes about 20 percent of the total implementation time for that feature. For example, if you have eight weeks assigned in total to implement one feature, approximately two weeks will be for design (including design meetings, necessary prototyping, design reviews, and all reviewing and updating of documentation). If prototype or test code is written, it is usual for this code to be used as a starting point for the feature implementation.

Development

During the development phase, the project manager will create the detailed Project Schedule. The development phase is where the product is built. The code is written and/or the system is developed. This phase includes unit testing of the features and components. It includes writing any test code or building any test systems needed for the QA group to be able to adequately test the product. The project will have been broken down into releases or milestones during the planning phase.

Once the detailed Project Schedule is complete and the milestones and deliverable dates are finalized, the actual development of your product begins. The project manager's job is primarily to track and manage the Project Schedule and the project team. This includes managing the scope, resources, budget, change control, status reporting, and quality of the product. This phase may contain many internal releases and test cycles that continue until all of the features and components are completed. The developers will be unit-testing their code before checking it in for a build; they will be tracking down and resolving bugs in their code. All of the code should be implemented, and all unit-testing and bug-fixing on individual features and components should be completed at the end of the development phase.

Integration

The integration phase is where you integrate the code or the system components into what will be the final product. For complex systems, whether hardware or software, the chances are that there will be some integration issues. Integration bugs will likely be found and will need to be resolved before the product is ready for release. Applicable performance and stability testing of the product will be performed and changes made to ensure that the product or service meets the specified performance specification. This is not as simple as it sounds. This can be the most stressful

phase of the lifecycle. If you are running out of time and cannot track down that one critical, elusive bug that is a showstopper, you and your team could find yourselves working long hours and long weekends for some time until the issues are resolved. If the product is being deployed at the client's site, there could be some integration with the client's existing systems. Usability testing or beta-testing programs will also take place during this phase of the project. The project manager will be working on the plans for deployment and post-deployment during the integration phase. The Operations Plan will need to be completed so that the Training Plan can be completed and the Training Manuals and course descriptions created.

Deployment (Launch)

There are a few things that need to be accomplished during the deployment phase before you will be ready to hand off to your client. The client training will take place during this phase. Any critical bugs found since integration will be fixed and verified. The final product will be delivered, whether that is physical hardware, a CD, or a product installed on Internet servers. The client will approve the deliverable prior to deployment. The client will perform client acceptance testing after deployment, followed by a formal client acceptance meeting where final agreements are signed. The final product handoff occurs when both parties have fulfilled all contractual obligations.

Post-Deployment

In most respects, your project is completed. Depending on the nature of the project, you will have somewhere between zero and many final tasks to complete before project closure.

During the post-deployment phase, you and/or your team may continue to be responsible for some ongoing support to the technical support, customer service, operations team, and so on. This could include weekly meetings with technical support and customer service representatives to analyze data relating to how many phone calls/emails they are receiving on different issues and areas of the product. You may have regular meetings with the client to troubleshoot issues and to discuss bugs and schedule maintenance releases of the product. You may need to work with the technical writing team to update help screens, user guides, and installation and setup guides to either correct errors or incorporate changes due to maintenance releases. For Internet products, you may be responsible for some operations support for the system. You may need to analyze performance statistics to ensure that your product's performance in a production environment is in line with the results that

your team achieved in the test environment. Will the system support the peak loads that were agreed to and confirmed in the contractual agreements? Time for these tasks has to be included in your scheduling, and for many, or all, of the project team, this may overlap with new assignments and new projects. Just because your project has been handed off does not necessarily mean that you can wipe your hands of it and move on without looking back!

Lessons learned, which are sometimes rather morbidly referred to as "postmortems," are an essential final step in any project. Do not be tempted to skip the lessons learned process. It is valuable and a great way for a project manager to get feedback on how the project went, any issues encountered, what things went well, and what things could be improved.

Project Direction

Project Direction is not a lifecycle phase. It is, however, the most important part of the project manager's job. It encompasses all the management and coordination tasks required to manage the project, overcome obstacles, and obtain the necessary approvals through each phase of the lifecycle. In addition to managing the coordination of project tasks and ensuring that all applicable standards, processes, and methodologies are followed, the project manager must effectively manage the people involved in the project. Project Direction tasks include the following:

- Managing communication
- Managing obstacles, risks, and issues
- Managing conflict
- Managing the client and client expectations
- Managing team members and team member expectations
- Managing organizational and project change
- Managing growth and development for team members
- Performance management and evaluation
- Developing leadership abilities
- Focusing on personal growth, development, and career planning

Managing Each Step of the Project Lifecycle

The steps of the project lifecycle may not necessary run consecutively. Often the steps will overlap and run concurrently for some period of time. For example, if the planning step is scheduled to last for ten weeks and the project will be a three-

phase implementation, you may want to get your development team working on the designs for phase one before you have completed the planning for phases two and three.

If you are inflexible on overlapping the steps, you may find that you are wasting a lot of development time while your development team sits around twiddling their thumbs waiting for something to do when you are in eight hours of planning meetings each day! To maximize the effectiveness and efficiency of your team, you should always be looking for ways to keep everyone working at full capacity and minimizing project downtime.

Some features will need more design time than others. It will depend on the size of the feature. You should not stop your team members from moving onto the development step for features that have completed designs because you have other team members who are not finished with that step yet. The same can be said for moving from development to integration.

You will find at times that some of your team members are on a different step in the process than the others. However, you should still have timelines for each step. You should document the start and finish dates for each step even though you know you will have a few exceptions to those hard dates.

You may be managing, or working in some capacity, on more than one project at a time, and this will add to the differing number of lifecycle steps that you are required to manage at any one time. In order for the company to be consistently working on projects and keeping all the employees busy, they will very likely be planning the next project while you are still implementing the current one. This planning is also likely to require some of your time. If your project timelines are not too long, you may find that you are managing the post-deployment step of your last project while at the same time managing the deployment step of your current project and the planning step of your future project! It is all about juggling your time and setting priorities. It can be challenging, but it is also a lot of fun, and it certainly does not allow you time to get bored!

In longer-term projects, it is often a cause for celebration to be moving from one lifecycle step to the next. Just when you thought you had taken all you could stomach of day-long planning meetings, you move into the design phase. Then again,

just when you are feeling a bit less challenged by development, when everything is running so smoothly, you switch to the integration phase and find lots of issues that require your troubleshooting skills. Many teams celebrate meeting the milestones that move them to the next step of the project lifecycle. It is easy to track progress using the lifecycle wheel, and though you know that it starts all over again as soon as you finish, it is still fun to see yourselves getting closer to the end goal.

Project Stage Gates

A *stage gate*, also referred to as a *phase gate*, approach to project management formalizes the various approvals that occur throughout the project into a standardized approval framework. The idea is that the project stops at each stage gate and cannot proceed to the next stage until the approval has been completed. The methodology in this book can be used as part of a stage gate process. The table below shows the project lifecycle phases and the corresponding stage gates. These gates are not set in stone. You can add or remove stage gates based on the specific process used at your organization for approving projects and project funding. The approvers listed are not necessarily all required. One or more would be usual. You may need to add additional approvers based on your organization's specific stage gate approval process. After the planning phase is complete, it is assumed that the sponsor and any senior managers who will remain involved in the project will become part of the steering committee and therefore are not listed separately.

Project Lifecycle Phase	Stage Gate	Stage Gate Approvals	Approvers
Planning	Project Concept	■ Project Concept approved ■ Funding and resources approved to create Project Proposal	■ Client ■ Sponsor ■ Senior Management (funding) ■ Product Management
	Project Proposal	■ Project Proposal approved ■ Funding and resources approved to create Charter, Marketing Requirements Document (MRD), and Budget	■ Client ■ Sponsor ■ Senior Management (funding) ■ Product Management
	Project Approval	■ Project Charter approved ■ MRD approved ■ Budget approved ■ Project funding and resources approved to build product	■ Client ■ Senior Management (funding) ■ Steering Committee ■ Sponsor ■ Product Management

Continued

Project Lifecycle Phase	Stage Gate	Stage Gate Approvals	Approvers
Design	Design	■ Technical Designs approved ■ Technical Specifications and Task Lists approved ■ Project Schedule finalized ■ Any schedule or budget changes approved	■ Steering Committee ■ Technical Lead/System Architect ■ Project Management Office (PMO) ■ Project Manager
Development	Development Complete	■ All development tasks complete ■ Unit testing performed ■ Schedule updated ■ Technical Designs and Specifications updated ■ QA Test plans created ■ Any schedule or budget changes approved	■ Steering Committee ■ Technical Lead/System Architect ■ PMO ■ Project Manager ■ Quality Assurance Manager
Integration	Code/Product Complete	■ All software, hardware and networking integrated/merged to create final product ■ Quality Assurance testing complete ■ Product optimization and bug-fixing complete ■ Deployment, Operations and Training Plans approved ■ Service Level Agreement approved ■ Any schedule or budget changes approved	■ Steering Committee ■ Technical Lead/System Architect ■ PMO ■ Project Manager ■ Quality Assurance Manager
Deployment	Deployment	■ Deployment and Training Plans implemented ■ Deployment or handoff of product completed ■ Client acceptance agreement signed ■ Any budget changes approved	■ Steering Committee ■ PMO ■ Project Manager ■ Client ■ Operations Manager ■ Training Manager ■ Sales Manager
Post-Deployment	Project Closure	■ Operational support plan implemented ■ Lessons Learned conducted and Tactical Plans created ■ Point Release and Ongoing Training Plans approved ■ Project Closure approved	■ Steering Committee ■ PMO ■ Project Manager ■ Client ■ Quality Assurance Manager ■ Operations Manager ■ Training Manager ■ Sales Manager

Sarbanes-Oxley Act (SOX)

During the 1990s, numerous corporate accounting scandals led to the loss of billions of dollars of investors' money. In response to these scandals, in 2002 the United States government introduced the Sarbanes-Oxley Act, affectionately

known as SOX, but also referred to as SarBox or SOA. It is named after Senator Paul Sarbanes and Representative Michael Oxley, who were the main architects of the act. The SOX Act introduced new regulatory requirements for publicly traded companies. The regulations apply mostly to accounting and IT practices. It is beyond the scope of this book to include in-depth details of SOX requirements. Suffice it to say that projects considered to be "financially significant" may come under the umbrella of the SOX Act. This means that the person responsible for the outcome of the project, the project manager, has certain legal responsibilities to meet SOX requirements. The legal department or SOX committee at your company will determine to which projects SOX applies. Some organizations, particularly those in the banking and finance industries, err on the side of caution and require that all projects be developed in compliance with SOX regulations.

You will not be able to meet SOX requirements for IT projects unless you are consistently using a structured methodology and applying good project management practices. At a very high level, SOX requires creation and retention of project records. This includes all project-related documents, specifications, correspondence, and decision and analysis documentation. SOX also requires that applications or products developed under SOX compliance have appropriate security and encryption in place. The security and encryption requirements may or may not be applicable to your project(s). If you are assigned to projects that require SOX compliance, I recommend that you learn more about the SOX Act and consult with your PMO, SOX, and/or legal departments to ensure that you understand exactly what is required from you and what individual responsibilities you have under the law.

It is unlikely that your organization would expect you to have an in-depth understanding of SOX. It will certainly work in your favor if you can demonstrate that you know what SOX is and why it is needed. What you have just read in this section will not make you an expert, but it will enable you to show that you have a basic understanding. This basic understanding will also ensure that when someone asks for your "SOX checklist," you don't start writing out your list, "*3 pairs of white ankle socks, 4 pairs of wool hiking socks, 2 pairs of formal black socks, 1 pair of running compression socks. . . .*"

The website *http://www.sox-online.com* explains the Sarbanes-Oxley Act in relatively easy-to-understand terms. Certainly it will be more understandable than reading the Sarbanes-Oxley Act itself!

Project Management and Quality Management Standards

Organizations today use many project management, quality management, and business management standards. It is beyond the scope of this book to mention them all. However, I would like to briefly introduce five industry standards that are widely used and recognized in companies worldwide. Remember the three parts to project management discussed in the last chapter?

- Standard/Framework
- Methodology
- Project Direction

These standards fit into the first category, Standard/Framework. You can apply more than one standard to a project. For example, you could use ISO and *PMBOK® Guide* at the same time. Even when using multiple standards, you still need a project methodology and project direction to effectively manage a project.

Project Management Institute (PMI)

The Project Management Institute was founded in 1967 in Pennsylvania, USA. Today, PMI is an international organization that develops professional standards and certification programs in project management. PMI has *The Project Management Body of Knowledge (PMBOK® Guide)*, which is its project management bible. *PMBOK® Guide* is a collection of best practices combined into PMI's nine knowledge areas that constitute the project standard. PMI and *PMBOK® Guide* are not industry specific. They are focused on generic standards that can be used in any industry (e.g., construction, pharmaceutical, automotive, software, financial). Chapter 18 contains information on how you can use this book in conjunction with *PMBOK® Guide* standards to effectively manage projects. You can find PMI on the web at *http://www.pmi.org*.

Office of Government Commerce (OGC)

In 1989, the United Kingdom's Central Computer and Telecommunications Agency (CCTA), which has since been renamed Office of Government Commerce (OGC), created a project management standard called PRojects IN Controlled Environments (PRINCE®). The current standard, *PRINCE2®*, was published in 1996 and was last updated in 2009. *PRINCE2* has become the primary project management standard used in the United Kingdom and many European countries in government and the private sector. The *PRINCE2* standard is organized around eight processes.

PRINCE2 has been widely adopted in technology/IT project management. Designed to be industry independent, in recent years its popularity has been growing in other industries, such as finance and telecom. Chapter 19 contains information on how you can use this book in conjunction with *PRINCE2* standards to effectively manage projects. You can find *PRINCE2* on the web at *http://www.prince-officialsite.com*.

Six Sigma®

The term "Six Sigma" came into use in the early 1990s. Motorola invented Six Sigma and later created the Six Sigma Technical Institute, where they collaborated with companies such as Allied Signal, IBM, Texas Instruments, and Kodak to further develop the process.

Six Sigma is a data-driven and analytical approach to projects. It is designed to eliminate defects in any type of process, whether it's a product or a service process. Achieving Six Sigma means that the process has no more than 3.4 defects per million opportunities. Six Sigma is non–industry specific and can be applied to processes in any type of organization. Six Sigma uses two methodologies: DMAIC (define, measure, analyze, improve, control), which is used to improve existing processes, and DSS (design for six sigma) or DMADV (define, measure, analyze, design, verify), which is used for designing new processes. Six Sigma has three levels of certification: green belt (GB), black belt (BB), and master black belt (MBB).

Six Sigma is used in hundreds of organizations today, such as Ford, General Electric, Kodak, Texaco, UPS, and the U.S. Air Force, to name but a few.

Software Engineering Institute (SEI) Capability Maturity Model Integration® (CMMI)

The Software Engineering Institute is a federally funded research and development center sponsored by the U.S. Department of Defense.

Capability Maturity Model Integration is designed to help organizations identify and improve the maturity level of their processes. There are five maturity levels:

1. **Initial:** Processes are ad hoc and/or chaotic.
2. **Repeatable:** Basic project management processes are in place.
3. **Defined:** Business and technical processes are standardized and documented throughout the organization.

4. **Managed:** Processes and quality are measured, analyzed, and managed.
5. **Optimized:** Processes are predictable and effective, and continuous process improvement is part of the process.

Some organizations require that vendors be at a specific CMMI level before they will consider them for contracts. Many government departments, for instance, have this requirement. Hence, many companies working on military/government contracts use and maintain the process standards required by CMMI.

International Organization for Standardization® (ISO)

A group of representatives from twenty-five countries formed ISO in 1946. The goal was "to facilitate the international coordination and unification of industrial standards" (source: ISO, *http://www.iso.org*).

ISO primarily focuses on technical standards for both products and services and is used in both the public and private sectors. The standards require a repeatable process that yields consistent results. The desired results include meeting client, quality, and regulatory requirements, continual improvement of process and results, and high client satisfaction.

ISO is continually publishing new standards. In recent years, numerous standards related to project management have been developed. For example:

- ISO 15188: Project management guidelines for terminology standardization
- ISO 10006: Quality management systems—Guidelines for quality management in projects
- ISO/IEC TR 9294: Information technology—Guidelines for the management of software documentation
- ISO/IEC/IEEE 16326: Systems and software engineering—Lifecycle processes—Project management
- ISO 9000: Quality management systems—Fundamentals and vocabulary
- ISO/DIS 21500: Guidance on project management—due to be published late 2012

This is a small sampling of available ISO standards. You can review all ISO published and under-development standards on the ISO website at *http://www.iso.org*.

PMBOK® Guide vs. PRINCE2

Process frameworks such as *PMBOK® Guide* and *PRINCE2* are industry-independent standards. They are designed to be used for project management for any type of project in any type of organization. You could use *PMBOK® Guide* or *PRINCE2* for a construction project, an aerospace project, or a technical/IT project. Industry-specific processes and standards are included in many project management methodologies.

PMP® Certification and *PRINCE2 Certification* do not replace project management methodologies or project management skills. They complement them. They are designed to be used with an industry-appropriate project management methodology. A process framework cannot teach you how to be a project manager, how to manage people, how to solve problems, or how to make decisions. These basic management skills are essential for project success. Statistical analysis will help you determine what is going wrong with your project. This book will teach you how to fix the problems you identify or how to work around them so that your project can continue with minimal disruption.

PMBOK® Guide has become the standard for project management best practices in the United States and is gaining popularity worldwide. *PRINCE2* has become the standard in the United Kingdom and many European countries and is also beginning to gain recognition in the United States. The two standards are similar but not identical. *PRINCE2* is more structured than *PMBOK® Guide*. *PMBOK® Guide* is more comprehensive.

PRINCE2 contains a collection of processes that you can adapt for different types and sizes of projects. None of the processes can be skipped. *PMBOK® Guide* contains a collection of knowledge areas and processes. You choose the processes based on the different types and sizes of projects. Unnecessary processes are skipped.

PRINCE2 more closely resembles a methodology than *PMBOK® Guide*. Six of the eight major processes that constitute *PRINCE2* are the project lifecycle steps. In *PMBOK® Guide*, the lifecycle is separate from the knowledge areas and processes.

PMP Certification is designed for senior project managers with a few years of hands-on project management experience. The *Certified Associate in Project Management (CAPM® Certification)* is designed for more junior project managers.

The *PRINCE2* Practitioner certification is designed for all levels of experience and expertise in project management.

You can use these two standards independently, or you can use them together. The *PMBOK® Guide* processes can be incorporated quite successfully into the *PRINCE2* framework. The two standards are complementary, and you can use both standards with the Fundamentals of Technology Project Management methodology.

All project management standards and methodologies have some differences in terminology, processes, and documentation. The basic principles of project management don't change because different terminology is used to describe aspects of it. A project is still a project whether you use processes from methodology 1 or from methodology 2 or the standards from process framework 1 or process framework 2. What is important is building a strong foundation in project management expertise. This includes understanding the fundamentals of project management and developing the skill sets required to effectively manage a project and a team. During your project management career, you will very likely implement projects utilizing different methodologies, standards, and process frameworks. No matter which methodology or standard you use, whether it is an established industry standard, a proprietary methodology, or the project methodology described in this book, what is most important is that you have the strong project management skills required to be an effective project manager. Methodologies, standards, and frameworks are tools to help you implement projects in a structured and methodical way. They do not teach you management skills, nor are they a substitute for them. This book will give you the knowledge you need to develop a high level of skill in project management so you will be successful no matter which methodology or standard you use.

Later in this book, dedicated chapters for *PMBOK® Guide* and *PRINCE2* describe how those standards integrate with the information contained in this book.

Part II

Planning Your Project

This part of the book covers all activities included in the Planning Phase of a project. This includes everything from the initial project concept or idea being presented all the way through to the project being officially approved and kicked off by the project manager.

PMBOK® Guide

This part of the book maps to *PMBOK® Guide* as follows:

Project Lifecycle Steps

- Starting the project
- Organizing and preparing

Process Groups, Processes, and Knowledge Areas

Knowledge Areas	Initiating Process Group	Planning Process Group	Execution Process Group
Integration	■ Develop Project Charter	■ Develop Project Management Plan	
Scope		■ Collect Requirements ■ Define Scope	
Time		■ Define Activities	
Cost		■ Estimate Costs ■ Determine Budget	
Quality		■ Plan Quality	
Human Resources		■ Develop Human Resource Plan	■ Acquire Project Team
Communication	■ Identify Stakeholders	■ Plan Communications	
Risk		■ Plan Risk Management ■ Identify Risks ■ Perform Qualitative Risk Analysis ■ Plan Risk Responses	
Procurement		■ Plan Procurements	

PRINCE2

This part of the book maps to *PRINCE2* as follows:

Process Map Stages

- Pre-project
- Initiation stage

Processes

Process	Activities
Directing a Project (DP)	■ Authorize Initiation ■ Authorize the Project ■ Authorize Stage or Exception Plan
Starting Up a Project (SU)	■ Appoint Executive and Project Manager ■ Capture Previous Lessons ■ Design and Appoint Project Management Team ■ Prepare and Outline Business Case ■ Project Approach and Project Brief ■ Plan Initiation Stage
Initiating a Project (IP)	■ Prepare Quality Management Strategy ■ Prepare Risk Management Strategy ■ Prepare Configuration Management Strategy ■ Prepare Communication Management Strategy ■ Create Project Plan ■ Set Up Project Controls ■ Refine the Business Case ■ Assemble the Project Initiation Document

Themes

Theme	Activities
Business Case	■ Business Case
Organization	■ Project Roles and Responsibilities ■ Define Roles ■ Role Descriptions
Quality	■ Quality Definition ■ Project Mandate or Brief ■ Project Product Description and Acceptance Criteria ■ Customer's Quality Expectations ■ Quality Management Strategy
Plans	■ Project Plan ■ Approach to Planning ■ Product-Based Planning
Risk	■ Risk Management Strategy ■ Risk Budget
Change	■ Change Control Process
Progress	■ Project Initiation ■ Stages