PART I

UNDERSTANDING PROJECT MANAGEMENT TODAY

Project management is a logical technique, and, as such, has been with us for centuries, whether we recognize it not. Project management is the methodology used to control task, schedule, and cost of a project.

Project management methodology was probably used to build the pyramids and may have even been used before that, if only we had evidence of accomplishments to prove it.

The methodology persisted in rudimentary form until about 1950, when it became evident that something more comprehensive was necessary to cope with the ever-increasing sophistication of projects. Because we were building complicated electromechanical systems and planning to send rockets to the moon and beyond, the U.S. federal government sought a protocol that would result in reports that could be checked periodically to ensure a task was on track.

Just such a protocol emerged from the design process of the Polaris missile program. The Polaris missile program was extremely complex and involved many, many subcontractors as well as thousands of parts.

To top it all off, the program was on a very demanding timeline. Once again, the ingenuity of man came to the rescue, and a new protocol was developed. That protocol is known as the Program Evaluation and Review Technique (PERT) and was developed on a contract with the U.S. Navy. About the same time, industry created a scheduling process now known as the Critical Path Method (CPM). The CPM has been the basis for nearly all the scheduling and work processing methodologies that followed. PERT and CPM are now used jointly, and you may see them titled as PERT/CPM. Once you have all the information necessary for PERT, it is relatively easy to look for the minimum timeline within all the activities. This minimum timeline is the Critical Path. In both these techniques, you divide the elements of the project into smaller and smaller activities and then place those activities into a network that represents the overall project. Dividing cost into smaller and smaller activities allows more precise control of the overall project. Dividing the task into smaller elements allows more exacting control over the specification and requirements for the final product.

But those techniques were just the start of a process that would grow in depth and breadth over time. And, as the process grows, we need to train people in the use of the techniques to control actual projects and educate them to expand the discipline. As this book unfolds, you will see just how complex project management is today. You will see the training, education, and experience you will need to become a project manager, proficient at the various levels of projects and programs that exist within the discipline today.

CHAPTER 1

Understanding What Project Management Is All About

Let's start by establishing some definitions, so we are all on the same page. The first is: ''Projects and Programs.'' Here, we will look at the structure of projects and programs and what they are all about. Then we will go through the various stages and phases that constitute projects and programs. Next comes: ''The Project Management Process.'' An understanding of what the project management process is all about is essential to understanding how the project manager applies his or her talents to conducting projects and programs. Then: ''The Portability of the Process.'' Just how applicable is the project management process to all the disciplines, and can you take it with you? Next, ''The Project Manager.'' Since you may have a definition of this term that you got from another book or you may have a definition unique to your organization, I will give my definition, so it is clear as you read this book. Next, we will look at the requirements for becoming a project manager. Then, we will introduce the ''Path to Success.'' Finally, the all-important issue: ''Deciding if Project Management Is for You.'' The equation applied to this decision will guide *Your Successful Project Management Career*.

Projects and Programs

The purpose of both projects and programs is to produce a product or service, or both, according to a requirement, by some moment in time, for a certain cost. A project is performed for an in-house customer; a program is performed for an out-of-house customer under the aegis of a legal contract. In order to accomplish this, a requirement is developed (hopefully written) and assigned to a group for execution. The group, led by a project or program manager, plans how they will perform the task and documents the plan. Then, they go about executing the plan.

Finally, when the task is completed, the project or program is closed, and the product is transferred to the originator of the requirement.

Figure 1-1 shows the steps necessary to get from the requirement to the product or service. For the sake of commonality and control, projects and programs are first divided into stages and then into phases to show needs, actions, and accomplishments. A rough standard has evolved to portray this relationship. I say ''rough'' because terminology changes with the person telling the story and the viewpoint from which the story is told. Regardless of what the stages or phases are called, the relationship remains the same. Each part of the portrayal has an identifier so that you can keep up with what's going on. Figure 1-1 shows the relationship of the identifiers in a linear fashion by showing the parts called stages and the parts called phases.

The four stages constitute the ''big picture.'' To lay some groundwork, let's start by describing what happens in each of the stages. You can get a feel for when each of the stages starts and finishes by looking at Figure 1-2.

Because a program is responsive to a legal contract between the performing organization and the requiring organization, the Initiating Stage is somewhat different in a program than in a project. In projects, the Initiating Stage is accomplished within the company although it may be in a different section, division, or group than the performing organization. The customer develops and documents the requirement and hands it over to the performing organization. In a program, the Initiating Stage is accomplished by a customer outside the performing company. The customer develops a requirement that is usually competitively bid, negotiated, and then awarded to the performing organization under the aegis of a contract. In a program, the Initiating Stage is

Figure 1-1. Relationship between the stages and phases.

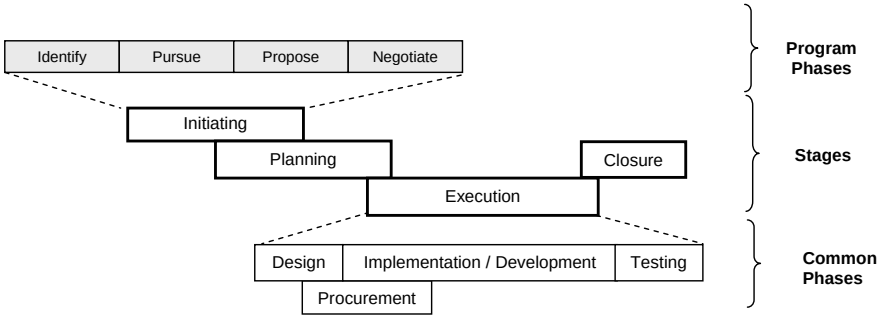

Figure 1-2. Project and program stages.

Stage	
A time in the project or program in which specific activities dominate. (There is some amount of overlap between stages.)	
Initiating Stage	Begins when a project is initiated or a program is identified, includes the proposal and ends with award.
Planning Stage	Begins at or before award and ends with kickoff.
Execution Stage	Begins with kickoff and ends at the completion of final test.
Closure Stage	Begins at the start of the final test and ends with total completion of the project or program.

divided into several phases, but these phases overlap considerably. For instance, making teaming agreements and alliances as well as developing the proposal are overlapping parts of the pursuit phase.

The Planning and Closure Stages are divided more by events than by discrete phases. The Planning Stage includes developing the program plan, selecting and training the personnel, and presenting the kickoff meeting. These events are usually not separated because they overlap so much. Further, the sequence is inconsistent. Usually, the project manager creates an action list that shows the start and finish of the separate events and the actions contained in each. The action list is posted to allow the team to see each day's activities.

The Execution Stage is the very heart of both the project and the program, and because of its complexity and duration, is divided into several phases. Figure 1-3 contains the actions that are contained in each of the phases. As you can see in Figure 1-1, the common phases are contained solely within the Execution Stage.

Note: When you read through the PMI PMBOK (part of the recommended reading for the Basic Skill Set in Chapter 6) you will find that the Project Management Institute (PMI) chooses to use the term *processes* rather than *stages*. PMI calls these processes: Initiating, Planning, Executing, and Closing. Just like the stages in Figure 1-1. In the PMI depiction, ''Controlling'' processes overlay all the other processes. In truth, they are both processes and stages. I chose to use the term *stages* here because, if we don't, we get into a compounding of the term *processes*.

Figure 1-3. Project and program phases.

Phase	
A time in the project or program in which specific efforts dominate.	
Design Phase	The phase in which the product or system is designed. Begins with the concept and ends with the final design review. Includes the definition and sometimes the design of subassemblies.
Procurement Phase	The phase in which subassemblies and components are procured. This phase may include the issue, performance, and closure of subcontracts.
Implementation Phase	The phase in which the assemblies and subassemblies are brought together to form a hardware system or computer program.
Development Phase	The phase in which a product or computer program is brought together and ''grown'' into the final product or computer program.
Testing Phase	The phase in which all tests are performed. The recognized testing phase usually includes assembly tests and final tests. Component tests and subassembly tests are usually a part of subcontracts or purchases.
O&M Phase	The phase in which the system or product is operated and maintained. Indeed, it is probably the reason it was developed in the first place. The Operations Phase or Operations and Maintenance Phase may or may not be part of a project or program task statement.

The Project Management Process

By my definition, the project management process consists of the sum of the processes, the stages, and the phases; therefore, the Project Management Process (singular) is the effective control of all the factors during the stages and the phases of a project or program from beginning to end.

The Applicability of the Project Management Process

The project management process is essentially applicable to all industries, disciplines, companies, and jobs. However, in a lot of documentation you will see the phrase: ''The Portability of the Process.'' The statement goes on to say that the process is portable from job to job, industry to industry, and company to company. Even though that statement is true on the surface, the inference many people draw from this statement is that if you are a project manager in one discipline, let's say pharmaceuticals, you can move to another industry, let's say aerospace, and lead a program there. This is *not* true. Even though the concepts are portable from industry to industry, and so on, the details are not. The reason is that the project manager must be critically attuned to the technical details of the projects he or she is leading in order for the project to be successful. For this reason, I use the term ''The Applicability of the Project Management Process.''

The Project Manager

The most general definition of a project manager is a person who employs the project management process. Although you can argue with this definition, and I do, it is the way the term is used throughout most of the commercial world today. Why? Because it makes people feel better and makes the job appear more important if the term ''manager'' is used. Frankly, that definition is oversimplified. In truth, a project manager is, or should be, one who manages projects—that is, he or she has the authority to truly manage the project by moving resources around and into and out of the project. A little further in the book, the terms supervisor and manager will be introduced. Even further, when the different project sizes are introduced, the definition will be compounded. When you start looking for a new position, it is up to you to use all the definitions in this chapter and decide whether the position you seek is really a project manager, or if it is a project coordinator, or a project supervisor that is called a project manager. There's nothing wrong with calling a coordinator or a supervisor a manager so long as you understand what the job is all about.

There are three skill groups a project manager must have in order to be effective: a technical skills group, a project management skills group, and a people skills group (a skill group is different from a skill set, which you will see later). First, the project manager must know what the task is all about from a technical standpoint. For that reason, we frequently see advertisements for: IT strategy project managers, or

construction project managers, or the like. Needless to say, the technical tasks these two project managers must lead are dramatically different. Consequently, each must possess a different technical skill in order to perform the specific task assigned. Second, a project manager must possess project management skills—that is, the ability to create schedules and budgets, the ability to implement and manage change control systems, the ability to implement and manage risk management systems, and the ability to implement and manage the many other project management skills as well. These are frequently referred to as the ''Hard'' (I prefer the term ''Firm'') project management skills. Third, a project manager must possess the so-called ''Soft'' skills. These skills are frequently called the people skills. The Australian Institute of Project Management (AIPM) presents an excellent summary of these skills.[1] They stipulate that a project manager possess these characteristics:

- Leadership ability
- The ability to anticipate problems
- Operational flexibility
- The ability to get things done
- An ability to negotiate and persuade
- An understanding of the environment within which the project is being managed
- The ability to review, monitor, and control
- The ability to manage within an environment of constant change

While all these skills do contain a certain amount of firm knowledge, they depend on the personal characteristics of the project manager to apply them properly. They are absolutely necessary to successfully lead a project composed of more than a single discipline and more than a few people.

The abilities that a project or program manager must possess will vary with the numbers of people, the value, the technical content, and the legal content of the project or program. Consequently, the abilities of the project or program manager need to be ''matched'' to the role to be performed without going overboard.

- Projects or programs with large numbers of people need a manager who understands the needs of people and of organizing them to get the job done. They don't need an on-site psychologist.

- Projects or programs of high dollar value need a manager with administrative (budgeting and scheduling) skills but he or she must avoid being so involved with the process that the other issues of the task are ignored (commonly called ''paralysis by analysis'').
- Projects or programs of high technical content need a manager who understands all the disciplines included in the project, but he or she must avoid being so involved in the technical design or technical issues that the project management and people issues are ignored.
- Programs with legal content need a manager who understands legal issues but not an on-site lawyer.

All projects or programs require a manager who has the most important ability of all: leadership. ''Leadership is influence, nothing more, nothing less.[2]

Now, what does all this mean to you and why should it be in such a prominent position in the book? It means that, when you are applying for a job or a new position as project manager, you must make sure the job is a correct fit for you, your abilities, and even your personality. If you are a qualified and experienced project manager and are offered a job with another company, ensure the job is what you want it to be and what you need it to be or that you can shape it into what you want it to be.

Suppose you are accustomed to moving resources around on your jobs and signing off on subcontracts and materials. In other words, having complete latitude in making your project work. If your new job does not allow you the same latitude, you may be in for a lot of frustration, even if you are making more money. This can be injurious to your career. I had a personal experience with this condition, and it was frustrating. In my case, everything went well until the last interview, when the cat came out of the bag. At the last moment, my interviewer said I would be reporting to a level different from the one we had been discussing all along. Did I have any problem with that? I said, ''Yes, I do have a problem with that.'' And that was the end of it. I found that the president of the area I was supposed to be in didn't want my position reporting to someone else. I was fortunate enough to see the handwriting on the wall and declined the position.

Suppose you are offered a position that is within your capabilities, and everything looks great. In fact, everything is too great. During negotiations you double your present salary, and the interviewer doesn't

even blink. You request some heavy-duty requirements such as an extended household move, and still the interviewer doesn't even blink. Something is not quite right here. This happened to me once. Fortunately, I had enough contacts to find out that the program I was to take over was a disaster, and there was just no way anyone could revive it. I found that they were looking for someone to blame for the failure. I turned that position down as well.

Suppose you have very limited experience in running projects and you are offered a job allowing you complete latitude to change resources, and so on. You are then responsible for the results. To accept this job could mean that you are in over your head and destined for failure. Certainly, this will hurt your career. Granted, you should always extend yourself or you will never grow. But, be certain that desire, extra-achievable training, and hard work will make up the difference and you can emerge from the project positively.

As you can see, a project manager is a complex person with a multiplicity of skills. Projects that vary in size, value, and complexity require project managers with different skill sets. These skill sets are not gained overnight, they are part of a learning process that takes a long time—sometimes years. As you read on through this book, you will see the several different skill sets necessary to lead the different project and program types. In the case of project managers, one size does not fit all!

The Path to Success

The path to success can be expressed in a very simple formula. Achieving success, however, is not quite so simple. The path to success is:

Knowledge + Experience + Persona × Performance = Success

Knowledge is a combination of both education and training. Experience is the application of that knowledge. Persona is the personality and attitude you project to your team members, your management, and your customer. Finally, performance is how well it all comes together and how the product turns out, how satisfied management is, and how satisfied the customer is. Performance is the most important factor, because no matter how great each and every one of the other factors is, if performance did not create the product the customer specified or did not provide the profit level that management established, performance will be less than desired, and the project will have been a failure.

We will be referring to the Path to Success at a number of points in this book.

Deciding if Project Management Is for You

If you're like everyone else when making decisions that will affect your career, you want to know: what, where, when, why, and how. I hope to answer as many of these questions for you as I can.

So far, we've talked about the fact that project management is a hot topic, and it's a hot topic because it controls the projects that provide the lifeblood of the company. Now is the time to start laying the groundwork so you can make an informed decision.

My job is to present as much information as possible for you to determine if you want to be a project manager, and if so, at what level. I will begin that process by talking about the organizations through which you can network to meet people and hiring organizations and even job opportunities. Furthermore, these organizations can provide reference materials and paths to certification.

It is a good idea to be able to ''talk the talk,'' so I've included a glossary at the end of the book. It contains the terms used in the book and the terms that will be thrown at you in the project management world.

Next, we will get into the detailed skill sets that are necessary to achieve the several levels of project and program management. No doubt you will want to improve your abilities to achieve further levels, so I'll provide a chapter that concentrates on this information. Gathering information is one thing but applying it is quite another. The book provides a part that outlines how these skills you worked so hard for can be applied at the different project levels. Then we will talk about applying those skills to projects of different sizes. At this point you may well want to advance your own career by quantum leaps rather than small steps. You can do this by viewing potential areas within your company that need project managers of your advanced standing or by changing companies. We'll go through the details of how to handle these changes before and after you make your moves.

Finally, you will find that project management is a constantly changing discipline. We will look at where project management is going and the personal advancements you need to keep up with the ''bow wave.'' Let's get started.

Notes

1. Australian Institute of Project Management, *National Competency Standards for Project Management*, Vol. 1 (Yeronga, QLD: AIPM, 1996): 19.
2. John C. Maxwell, *The 21 Irrefutable Laws of Leadership* (Nashville, Tenn.: Thomas Nelson Publishers, 1998).